



# ELECTRONIC PANEL LEDS



**INSTRUCTIONS**  
**-INSTALLATION AND OPERATION-**





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## 1 – INTRODUCTION

This manual is aimed at making available information relating to the Electronic LED Panel and the system via the GPS next stop to be installed and used correctly, thus minimizing the possibility of any defects related to its smooth operation. Inova reserves the right to modify any information contained in this manual without prior notice to its users.

## 2 – WARRANTY

Inova Sistemas Eletrônicos Ltda. provides warranty to its Electronic Panel LEDs for a period of 5 years from the date of purchase for panels equipped with yellow LED lights and 2 years for the rest of the LED color lights, against manufacturing defects. Loss, costs or expenses incurred by user as a result of misuse, accident, maintenance and / or modifications without the permission of Inova Sistemas Eletrônicos Ltda. or the non-compliance with the installation instructions are not covered under warranty.

## 3 – CONTACT AND SUPPORT

E-mail:	itinerario@inova.ind.br	
Skype:	inova_itinerario	
Messenger:	itinerario@inova.ind.br	
Web site:	www.inova.ind.br	
Nextel:	55*82*46297	
Phone:	+55 (54) 3535 8012	
	+55 (54) 3535 8000	
Fax:	+55 (54) 3535 8088	
	+55 (54) 3535 8008	
Hours:	monday to thursday:	7h30min às 12h15min 13h15min às 17h30min
	Friday:	7h30min às 12h15min 13h15min às 16h30min

## 4 – PRODUCT FEATURES

- Power: 10 to 30Vdc.
  - 10A Internal fuse.
  - Operating and storage temperature: -20 ° C to 60 ° C
  - CAN communication (Controller Area Network): J1939 Protocol.
  - Automatic control of brightness with ambient light sensor located on the front Electronic LED Panel.
  - Storage capacity: each Electronic LED Panel has 2MB internal memory which can store up to 1400 itineraries with 20 messages each.
  - The system can store up to next stop 6000 reference points divided among the existing itineraries on the Electronic LED Panel.
- (These figures may vary according to the itinerary settings and the Electronic LED

Panel models used.)

## 5 – PRODUCT CODE ASSEMBLY

IT	11	X	96	-	13	AM	VD	32	A	B	C
1	2		3		4	5	6	7	8	9	10

1 - Identifier of the type of Electronic LED Panel:

- IT – Normal Electronic LED Panel;
- ITP – Small Electronic LED Panel;
- ITG – Large Electronic LED Panel;
- ITI – Electronic LED Panel for internal use.

2 - Number of lines of the Electronic LED Panel

3 - Number of columns of the Electronic LED Panel

4 - Horizontal spacing between the LED lights (in mm)

5 - LED light color used on Electronic LED Panel:

- AM - yellow (amber) light
- LED RV - Green LED
- VM - Red LED light
- AZ - Blue LED light
- BR - White LED light

6 - If you are using 2-color LED lights, the second identifies the color used according to the table above.

7 - If you are using 2-color LED lights; identify the number of columns used in the second color, always counting from left to right.

8 - Model of the Control Unit used:

- A - Without control unit.
- B - Basic coupled unit with a 14mm high display of high-brightness.
- C - BIG DIGIT coupled unit with 57mm high display of high-brightness
- D - Coupled unit with 16-character LCD display and 2 lines.
- E - External unit with 16-character LCD display and 2 lines – INV-113M4
- F - Basic unit coupled model economic

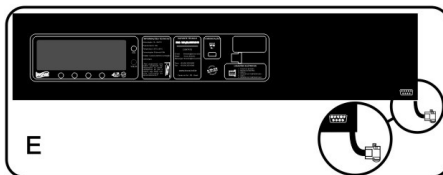
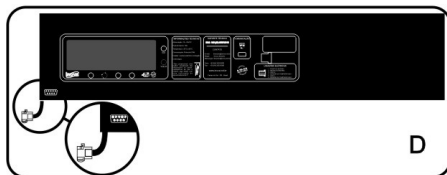
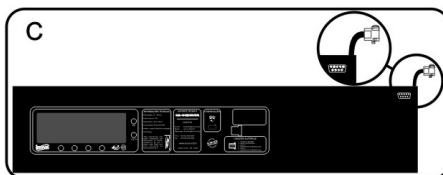
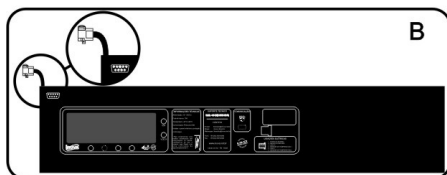
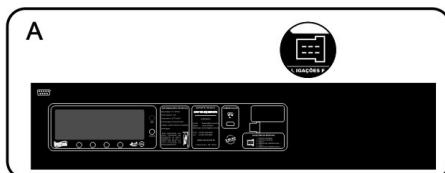
9 - Type of electrical connection:

- A - Rear connector installed on the back cover of the Electronic LED Panel
- B – By means of electric wiring at the upper left side of the Electronic LED Panel
- C - By means of electric wiring at the upper right side of the Electronic LED Panel
- D - By means of electric wiring at the lower left side Electronic LED Panel
- E - By means of electric wiring at the lower right side of Electronic LED Panel

10 – Space intended for special features.

## 5.1 – Types of electrical connections

The Electronic LED Panel can be equipped with rear connector or with electric wiring in one of corners of the Electronic LED Panel. The drawings below represent these options:



The connector of the GPS module will be available Electronic LED Panels containing the GPS signal converter. This system must be requested during the specification of the panels.



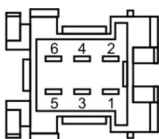
## 6 – INSTALLATION

Before installing the electronic equipment, check the following carefully:

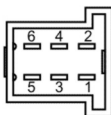
- If the installation site meets the specified temperature requirements and it is protected from liquid penetration.
- Install the power and communication cables in protected locations where they cannot be pressed or cut.
- Avoid using cables with different characteristics from those specified as it can damage the performance of installed equipment.
- To provide a better view of the information on the Electronic LED Panel, make sure that it is fixed with a tilt of approximately 5 °.

### 6.1 –Electrical connections of the Electronic LED Panel

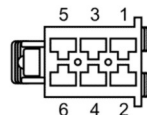
Representation of the connectors, viewed from the terminals.



CONNECTOR PANEL LEDs  
CABLE CONNECTION



REAR CONNECTOR PANEL  
AND LED IHM OUTSIDE



CABLE CONNECTOR LINKS Manufacturer:  
Tyco CODE: AMP 929504-2

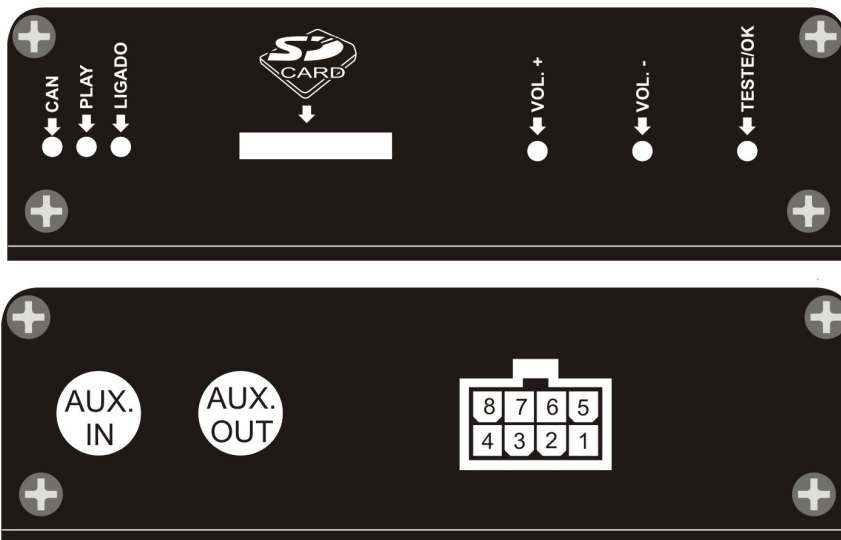
### Connections of the Electronic LED Panel Connector

- Pin 1 - VM - Positive battery - 10 to 30VDC
- Pin 2 - MR - Negative battery
- Pin 3 - CZ - Network CAN - H
- Pin 4 - PM - Temperature sensor 1
- Pin 5 - LA - CAN - L Network
- Pin 6 - BR - Timer trip door lock, negative sign (optional).

### Connections of the external control unit connector

- Pin 1 - VM - Positive battery - 10 to 30VDC
- Pin 2 - MR - Negative battery
- Pin 3 - CZ - CAN - H Network
- Pin 4 - AZ - USB NIPD
- 5 - LA - CAN - L Network
- Pin 6 - VD - USB D +

## 6.2 – Electrical connections MP3 Audio Player



### - Connections of the MP3 Audio Player connector

Pin 1 - Negative battery

Pin 2 - Input 1

Pin 3 - Input 2

Pin 4 - Negative Speaker

Pin 5 - Positive battery - 10 to 30VDC

Pin 6 - CAN - H Network

Pin 7 - CAN - L Network

Pin 8 - Positive Speaker

Manufacturer: MOLEX

Manufacturer Code: MINI-FIT 5566 / 8



The MP3 Audio Player can be used as an external amplifier for the surround sound system of the vehicle by means of the RCA "AUX. IN" connector.



If the vehicle already has a sound system installed, the MP3 Audio Player can be connected to a high impedance input of the sound system already installed using the RCA "AUX.OUT" connector.



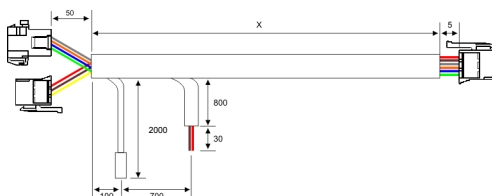
The interconnection of the speakers should be designed for a minimum impedance of 8 ohms to avoid burning the sound output of the Audio Player.

## 6.3 – Electric wiring for the Electronic LED Panel connection

- Connecting an Electronic LED Panel with external control unit

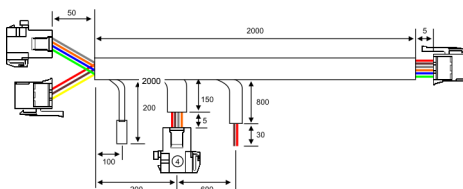
CB002 – X=2000

CB003 – X=5500



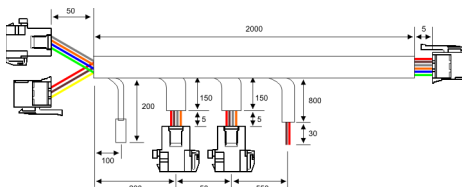
- Connecting an Electronic LED Panel with external control unit and a derivation

CB004



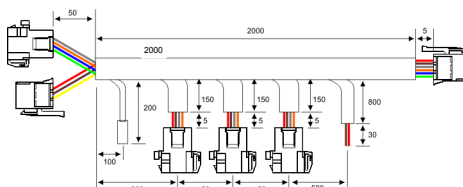
- Connecting an Electronic LED Panel with external control unit and two derivations

CB005



- Connecting an Electronic LED Panel with external control unit and three derivations

CB006



- Extension cable:

CB007 - X=4,5m

CB008 - X=5,5m

CB009 - X=6,0m

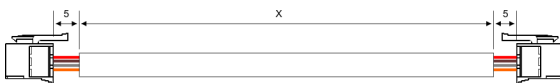
CB010 - X=11,0m

CB011 - X=13,0m

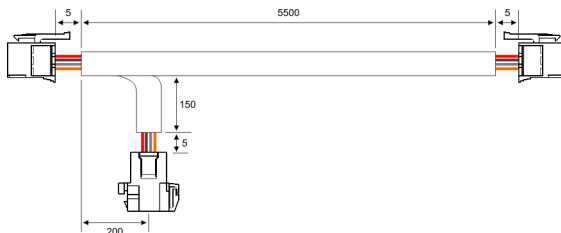
CB012 - X=14,0m

CB013 - X=15,0m

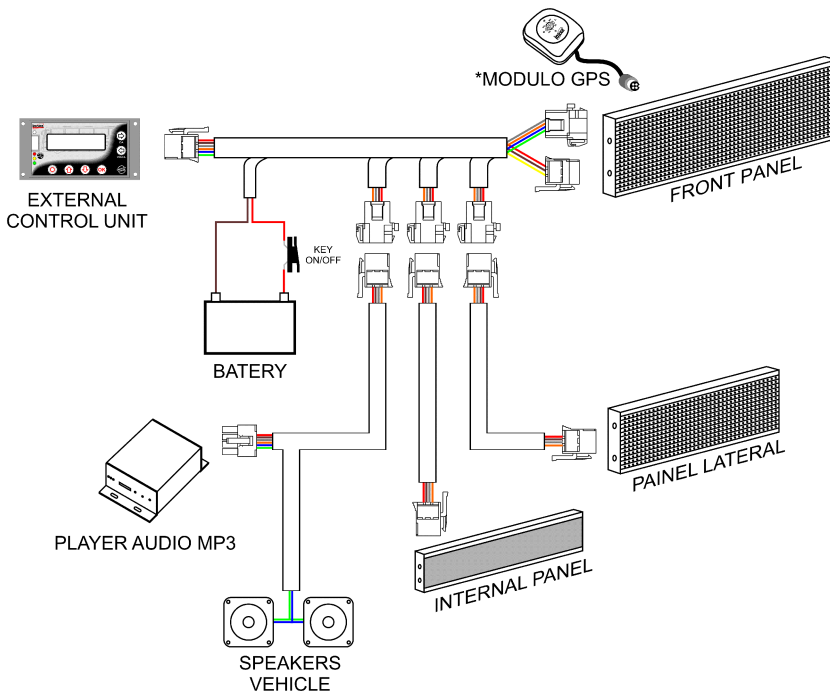
CB014 - X=16,0m



- Extension cable with a derivation:  
CB015

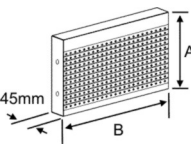
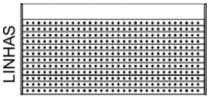
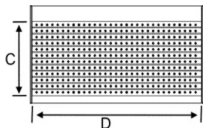


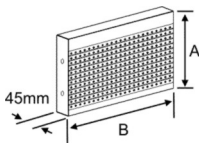
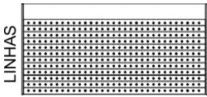
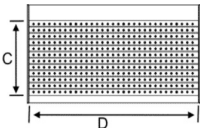
## 6.4 – Example of an electrical connection

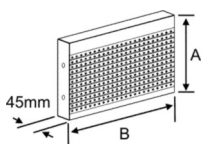
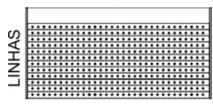
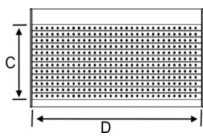


\*OPTIONAL (For best reception of satellite signals, the GPS module should be installed so that it is not covered by metal).

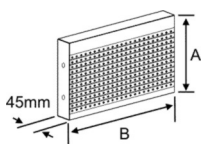
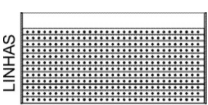
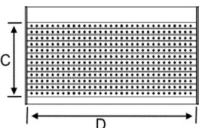
## 6.5 – Dimensions of Electronic LED Panels

 Dimension Ext.(mm)		 Matrix of Leds			 Area Visible		Model
B	A	Lines	Columns	Distance Columns	D	C	
346	120	8	32	10	340	95	ITP 08x32-10
	200	11				175	IT 11x32-10
		13					IT 13x32-10
		17					IT 17x32-10
439	200	11	32	13	433	175	IT 11x32-13
		13				260	IT 13x32-13
	285	17					ITG 17x32-13
501	200	8	32	15	495	150	IT 08x32-15
506	120	8	48	10	500	95	ITP 08x48-10
	200	11				175	IT 11x48-10
		13					IT 13x48-10
		17					IT 17x48-10
647	200	11	48	13	641	175	IT 11x48-13
		13				260	IT 13x48-13
	285	17					ITG 17x48-13
666	120	8	64	10	660	95	ITP 08x64-10
	200	11				175	IT 11x64-10
		13					IT 13x64-10
		17					IT 17x64-10
741	200	8	48	15	735	150	IT 08x48-15
826	120	8	80	10	820	95	ITP 08x80-10
	200	11				175	IT 11x80-10
		13					IT 13x80-10
		17					IT 17x80-10
855	200	11	64	13	849	175	IT 11x64-13

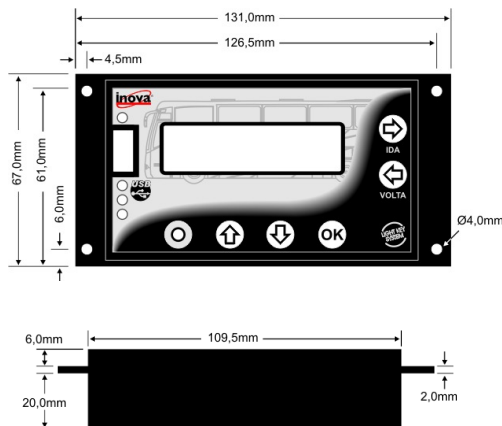
 Dimension Ext.(mm)		 Matrix of Leds			 Area Visible		Model
B	A	Lines	Columns	Distance Columns	D	C	
		13					IT 13x64-13
	285	17				260	IT 17x64-13
981	200	8	64	15	975	150	IT 08x64-15
986	120	8	96	10	980	95	ITP 08x96-10
	200	11				175	IT 11x96-10
		13					IT 13x96-10
		17					IT 17x96-10
1063	200	11	80	13	1057	175	IT 11x80-13
		13					IT 13x80-13
	285	17				260	IT 17x80-13
1146	120	8	112	10	1140	95	ITP 08x112-10
	200	11				175	IT 11x112-10
		13					IT 13x112-10
		17					IT 17x112-10
1271	200	11	96	13	1265	175	IT 11x96-13
		13					IT 13x96-13
	285	17				260	IT 17x96-13
1306	120	8	128	10	1300	95	ITP 08x128-10
	200	11				175	IT 11x128-10
		13					IT 13x128-10
		17					IT 17x128-10
1461	200	8	96	15	1455	150	IT 08x96-15
1466	120	8	144	10	1460	95	ITP 08x144-10
	200	11				175	IT 11x144-10
1466	200	13	144	10	1460	175	IT 13x144-10
		17				175	IT 17x144-10

 Dimension Ext.(mm)		 Matrix of Leds			 Area Visible		Model
B	A	Lines	Columns	Distance Columns	D	C	
1479	200	11	112	13	1473	175	IT 11x112-13
		13				260	IT 13x112-13
		17					IT 17x112-13
1776	120	8	160	10	1770	95	ITP 08x160-10
	200	11				175	IT 11x160-10
		13					IT 13x160-10
		17					IT 17x160-10
		17					IT 17x160-10
1687	200	11	128	13	1681	175	IT 11x128-13
		13				260	IT 13x128-13
	285	17					IT 17x128-13
1701	200	8	112	15	1695	150	IT 08x112-15
1895	200	11	144	13	1889	175	IT 11x144-13
		13				260	IT 13x144-13
	285	17					IT 17x144-13
1941	200	8	128	15	1935	150	IT 08x128-15
2103	200	11	160	13	2097	175	IT 11x160-13
		13				260	IT 13x160-13
	285	17					IT 17x160-13
2181	200	8	144	15	2175	150	IT 08x144-15
2646	200	8	160	15	2640	150	IT 08x160-15

## 6.6 – Dimensions of Electronic LED Panels for Internal Use

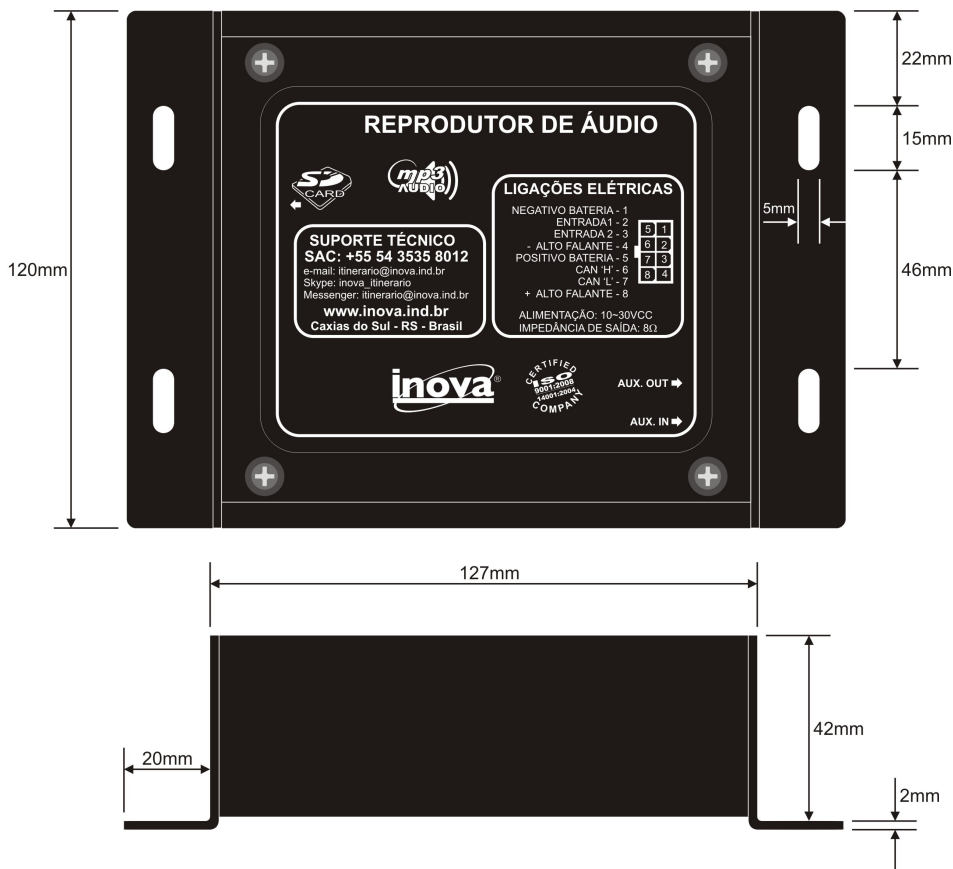
 Dimension Ext.(mm)		 Matrix of Leds			 Area Visible		Model
B	A	Lines	Columns	Distance Columns	D	C	
332	84	16	80	4	325	72	ITI 16x80
396			96		389		ITI 16x96
460			112		453		ITI 16x112
524			128		517		ITI 16x128

## 6.7 – Dimensions of the external control unit





## 6.8 – Dimensions of MP3 Audio player



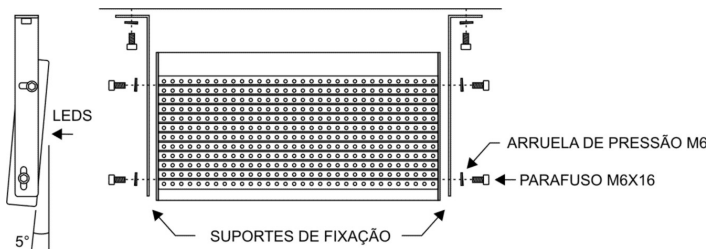
## 6.9 – Fixation

Along with the Electronic LED Panel, it may be provided a kit to fix it. The bracket can be fixed with the base down or up and into or out of the Electronic LED Panel as required and space available.

The user can choose to use other more convenient supports for the fixation of the Electronic LED Panel as long as the measures presented are followed.

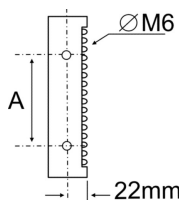
## 6.10 – Fixing Bracket

The installation of fixing brackets must be in accordance with the following drawing:



The distances of the fixing bolts are standardized, according to the measurement of the height of the Electronic LED Panel:

Panel Height (mm)	A (mm)
84	55
120	80
200	140
285	200



## 7 – INTRODUCING THE PRODUCT

### 7.1 – Features



Communication between the Electronic LED Panels and the External Control Unit is performed by means of a CAN (Controller Area Network), standard used in the automotive industry, in the J1939 protocol format.



Inova Electronic LED Panels are the first to use USB Host communication for the transfer of messages via any flash drive. Inova can provide the equipment along with a personalized flash drive.



The EPS system (Extended Power Supply), allows the Inova Electronic LED Panel to be powered by any voltage between 10VDC and 30VDC. This equipment is protected against fluctuations in voltage and interference caused by other equipment or even the starter of the vehicle.



The control units are equipped with the Key Light System, in which the keys have LED lighting, which provides an intuitive user operation, helping to guide you in using the Electronic LED Panel, even in dim lighting.



The brightness of the LED lights on the Electronic LED Panel is controlled by the EBC (Electronic Control Bright), which automatically adjusts the brightness according to ambient light via a sensor on the front Electronic LED Panel.



The electronic panels and LED lights are compatible with the GPS (Global Position System) that allows internal panels to display a message indicating the next stop as the vehicle approaches the stop point.



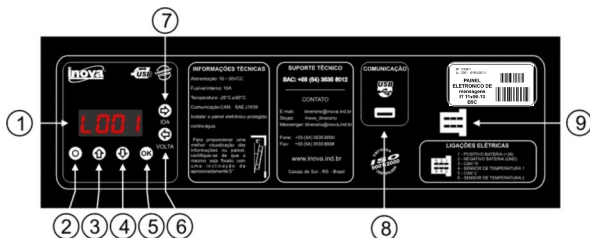
Next to the Electronic LED Panels, an MP3 audio player can be installed in sync with the internal panels that will announce the next stop by means of loudspeakers distributed in the vehicle.

## 7.2 – Control Units

Inova offers several control units. Each unit has different characteristics to best suit user needs.

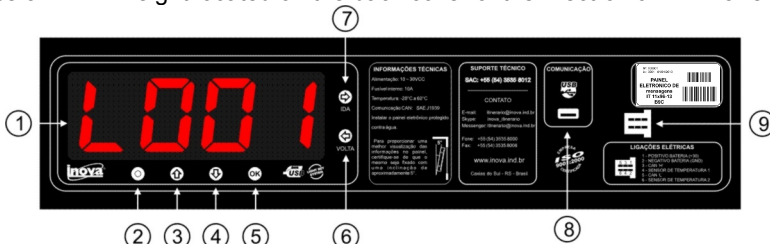
### - Local Basic Control Unit

It provides an easy operation of the Electronic LED Panel and a discrete display of information. It has a 4-digit display with high brightness 14mm in height located on the back cover of the Electronic LED Panel.



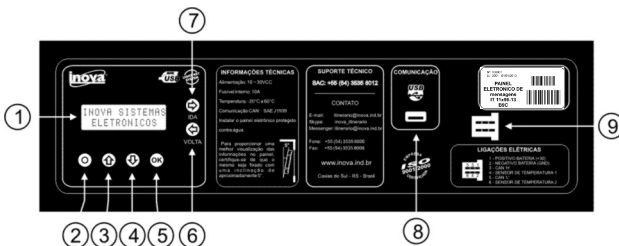
### - Local DIGIT BIG Control Unit

it provides a display of information over long distances. It has a 4-digit display with high brightness 57mm in height located on the back cover of the Electronic LED Panel.



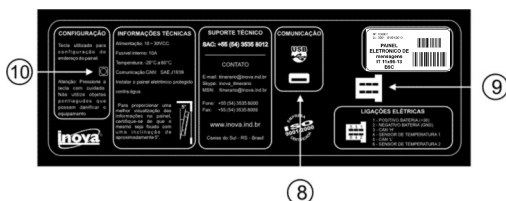
### Local LCD Control Unit

It provides an easy understanding of the parameters of the Electronic LED Panel. It has an LCD display with 2 lines of 16 digits located on the back cover of Electronic LED Panel. As it has LCD information which is presented more clearly, and may show the name and not only the number of the itinerary selected. This can eliminate printed lists of itineraries to search for the number of each itinerary.



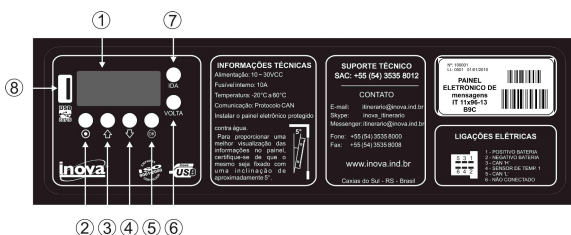
## - Electronic LED Panel without control unit

This panel should be used when an External Control Unit is installed or when more than one Electronic LED Panel on the same network is installed, it is not necessary that all Electronic LED Panels have a Control Unit. The control unit of the Main Electronic LED Panel is responsible for setting all Electronic LED Panels connected to the network. In this case, only one key is available to be used in the address configuration of Electronic LED Panels.



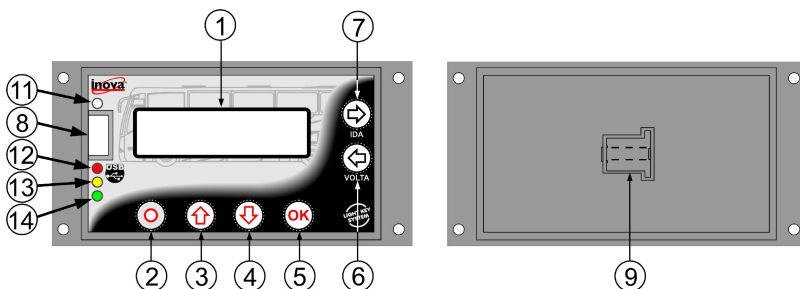
## -Economic Electronic LED Panel

The Economic Electronic LED Panel has local control unit Basic, it provides an easy operation of Electronic LED Panel and a discreet viewing of information. This panel has no CAN communication so their use should be individual and you cannot use it on a network.



## - External control unit

The external control unit is designed to provide greater convenience of the Electronic LED Panel in the operation. It can be installed in any position that provides the best user access, eliminating the need for even having to move to the Electronic LED Panel to operate it.



Description of the components of control units:

1 - Display: Indicates the selected itinerary and information about time and temperature.

It is also used to display the configuration parameters and operation of the Electronic LED Panel

2 - MENU Key: Access the menu operation and configuration.

3 - UP Key: Used to navigate through menus and increase the value of the parameter being programmed.

4 - DOWN Key: Used to navigate through menus and decrease the value of the parameter being programmed.

5 - OK Key: Used to confirm an action, such as the parameter value to be stored in memory and / or advance a level in programming.

6 - VOLTA (return) Key: Select the return messages from the itinerary and select the correct choice during the previous itinerary.

7 - IDA (going) Key: Select the outbound messages from the itinerary and select the next digit when choosing the itinerary.

8 - USB communication connector: Used to transfer data through a memory device (flash drive).

9 - Power connector and CAN communication

10 - This key is used for address configuration on the Electronic LED Panel.

11 - Light sensor: Adjusts the brightness of the display control unit according to the external ambient conditions.

12 - Red LED: Indicates the status of the USB connection

13 - yellow LED: Indicates communication over the CAN network

14 - Green LED: Indicates that the terminal is in operation

## 7.3 - Flash drive

To download the itineraries from the computer to the Electronic LED Panel, or transfer files between two or more Electronic LED Panels, you should use a common flash drive without the need for any type of device adapter. Just download the files normally from your computer to the USB and then connect it to the Electronic LED Panel and download data.



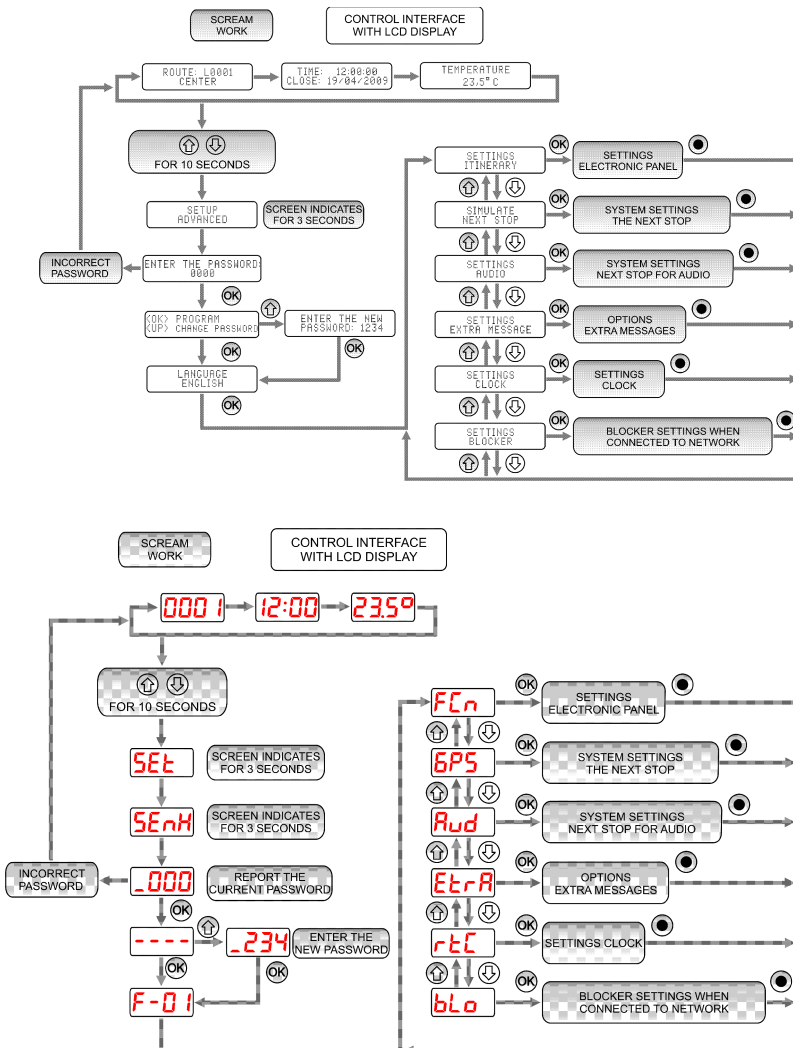
Inova provides a flash drive to be used to transfer itineraries.








However, if the user already has a flash drive, you can use it normally without the need to purchase a new flash drive.





## 8 – CONFIGURATIONS

The configuration menu of the setting work mode of the Electronic LED Panel is used to configure how the Panel Electronic LED works, selecting the configurations that best suit the vehicle and operating needs. The menu mode of the setting work is divided into submenus in order to facilitate the configurations.





The messages are represented by  are related to control units with LCD display and the messages represented by  are related to control units with LED display.



In order to access the configuration menu, keep the keys  and  pressed for 10 seconds when the message will be displayed on the display . Use the key to advance the parameters , the  and  keys to adjust the desired values and  key to save changes and quit the configuration menu. In case no key is pressed within an interval of 15 seconds, the electronic LED Panel will save the settings made and return to normal operation.

When the configuration menu is accessed, your password will be required,  showing the message on the display for 3 seconds. Use the arrow keys  and  to adjust the value of each digit and the key  to advance to the next digit and confirm the password value.

The factory default password is 1234.

If the password is set correctly the message will be displayed on the screen  . At this point you can choose to access the configuration, pressing the , or change the password by pressing the  key. To adjust the new value of the password use the same procedure previously used to adjust the access password.

## 8.1 – Language Selection

It allows you to select the language that will be displayed on the display of messages of the Control Unit Electronic LED Panel.

Setting Range: 00 to 02

Factory Default Value: 00 - Português

00 = Português

01 = Español

02 = English

## 8.2 – Configuration Parameters of LED panels

It allows you to adjust the operating parameters of the LED panels.

### 8.2.1 – Display the itinerary on the display control unit

It allows you to select the description of the itinerary to be displayed or not to be displayed on the display control unit.

Setting Range: 00 or 01

Factory Default Value: 01 - It displays description

00 = It does not display the description

01 = It displays description

### 8.2.2 – Display the clock on the display control unit

It allows you to select whether the clock is displayed or not on the display control unit.

Setting Range: 00 or 01

Factory Default Value: 01 - It displays the clock

00 = It does not display the clock



01 = It displays the clock

## 8.2.3 – Display the temperature on the display control unit



It allows you to select whether the temperature is displayed or not on the display control unit.

Setting Range: 00 or 01      Factory Default Value: 01 - It displays the temperature

00 = It does not display the clock

01 = It displays the temperature



**Tip:** To keep the LCD Panel Electronic LED off when it is not being operated, set the parameters F02, F03 and F04 at 00, therefore none of this information will be shown on the display.

## 8.2.4 – Display the address (ID) of Electronic LED Panels of the network






It makes all the Electronic LED Panels installed on the network show their respective address (ID) on the same Electronic LED Panel. Make a note of the address provided by each Electronic LED Panel and its corresponding location, and then use the configuration of the itinerary project in the INVEDIT software (version 3.0 or higher). This feature is required only when more than Electronic LED Panel is installed in the network.

Setting Range: 00 or 01

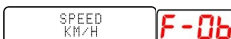
Factory Default Value: 00 - It displays addresses

00 = It does not display addresses

01 = It displays addresses

While the Electronic LED Panels are displaying their addresses, the display on the control unit will indicate  : To exit this feature press the key .

## 8.2.5 – Unit of speed indicator



It allows you to select the unit of speed indicator. (Only if the next stop system or Automotive Blocker system is installed)

Setting range: 00 or 01

Factory Default Value: 00

00 = Km/H

01 = MPH

## 8.2.6 – Unit of temperature indicator

TEMPERATURE  
DEGREES:CELCIUS

**F-07**

It selects the unit of temperature indicator.

Setting range: 00 or 01

Factory Default Value: 00

00 = Degrees Celsius

01 = Degrees Fahrenheit

## 8.2.7 – Itinerary Selection Mode

MEMO SEL. ROADMAP  
BY DIGIT 0-9

**F-08**

It adjusts the itinerary selection mode.

Setting Range: 00 or 01

Factory Default Value: 00

00 = It selects the itinerary type digit by digit from 0 to 9

01 = It selects the itinerary by means of the whole number from 0000 to 9999

## 8.2.8 – Display of the speed and RPM on the control unit display

MESSAGE RPM/SPD  
SHOW:YES

**F-09**

It allows you to select the speed and RPM that will be displayed or not on the control unit display. (Only if the next system stop system or the Automotive blocker system is installed).

Setting Range: 00 or 01

Factory Default Value: 01

00 = It does not display the speed and RPM

01 = It displays the speed and RPM

## 8.2.9 – Access to extra message configurations

ACCESS MSG  
PASSWORD:YES

**F-10**

It allows you to select whether the configuration of the extra messages will be accessed through the password protected configuration menu, it only allows access to some messages or through the operation menu without entering the access password.

Setting Range: 00 or 01

Factory Default Value: 00

00 = Through the operation menu

01 = Only messages 1 and 3 will be shown

02 = Through the password protected configuration menu

## 8.2.10 – Brightness control mode of the Electronic LED Panel

BRIGHTNESS CTRL  
AUTOMATIC

**F-20**

It allows you to select the brightness of the LED lights of the Electronic LED Panels that will be either fixed or automatic according to ambient lighting conditions.

Setting Range: 00 or 01

Factory Default Value: 00

00 = Automatic Brightness Control

01 = Fixed brightness control (manual)

## 8.2.11 – Manual adjustment of the brightness level of LED lights of the Panel

ADJUSTING  
BRIGHTNESS:07

**F-21**

This parameter allows you to select what level of brightness is set in Electronic LED Panel. It will only be accessible in case the previous parameter was set to 01 (manual).

Setting Range: 01 to 10

Factory Default Value: 07

01 = Less brightness intensity

10 = Higher brightness intensity

## 8.3 – Menu of the next stop system

SETTINGS  
NEXT STOP

**6P5**

Through the menu the next stop system it is possible to change the configurations of the operating system by selecting the option **EDIT NEXT STOP POINT** **EP-P**, or simulate the points already saved on the Electronic LED Panel **SIMULATION NEXT STOP** **SP-P** by selecting the option be means of the the keys **⏮** and **⏭** and the key **OK** to confirm the choice.

(This menu is only visible if the GPS module is connected to the main Electronic LED Panel).

### 8.3.1 – Configurations of the next stop system

EDIT NEXT  
STOP POINT

**EP-P**

It allows you to adjust the parameters of operation of the next stop system.

It allows the customization of the system.

#### 8.3.1.1 – Deleting all points on the itinerary selected

DELETE ALL  
ITEMS GPS? YES

**6-01**

This parameter allows erasing all points in the selected itinerary

Setting range: 00 or 01

Factory Default Setting: 00

00 = It does not clear the points

01 = It deletes the Delete

#### 8.3.1.2 – Message displaying vehicle stopped

SHOW POST  
STOPPED:YES

**6-02**

It allows you to select whether the internal panels should display a message indicating the stop where the vehicle is stopped.

Setting range: 00 or 01

Factory Default Setting: 00

00 = It does not display a message departure

01 = It displays message departure

## 8.3.1.3 – Display message on departure

SHOW POST  
DEPARTURE: YES

**6-03**

It allows you to select whether the internal panels should display the message for the next start moving into it.

Setting range: 00 or 01

Factory Default Setting: 00

00 = It does not display a message departure

01 = It displays message departure

## 8.3.1.4 – Start Mode of next stop display

METHOD PLAYING  
NEXT STOP: TIME

**6-04**

It allows you to select if the next stop will be shown by arrival time at the point or straight-line distance in from the stop point.

Setting range: 00 or 01

Factory Default Setting: 00

00 = It displays message according to time

01 = It displays message according to distance

### 8.3.1.4.1 – Time to display next stop message

TIMER START  
MESSAGE: 15s

**6-05**

It sets the estimated time to display the next stop message before the vehicle reaches the stop point. (Parameter is visible only if G-04 = 00).

Setting range: 10 to 99 seconds

Factory Default Setting: 10

### 8.3.1.4.2 – Distance to display the next stop message

DISTANCE START  
MESSAGE: 150m

**6-05**

It sets the estimated distance to display the next stop message before the vehicle reaches the stop point. (Parameter is visible only if G-04 = 01).

Setting range: 100 to 999 Meters

Factory Default Setting: 150

## 8.3.1.5 – Selection of the round trip itinerary through the GPS

MODE RETURN  
AUTOMATIC: SIM

**6-06**

It allows selection of the exchange of the round trip itinerary system automatically in last stop point of the line.

Setting range: 00 or 01

Factory Default Setting: 00

00 = It selects round trip manually

01 = It selects round trip automatically, not requiring the use of round trip keys

## 8.3.1.6 – Storage of stop points

SCHEDULE  
WAY POINT: YES

**6-10**

It allows saving the points of the itinerary selected





Setting range: 00 or 01

Factory Default Setting: 00

00 = It returns to the configuration menu.

01 = It accesses the menu to start the marking of points of the itinerary.

## 8.3.2 – Simulating points of next stop SIMULATION NEXT STOP **SP-P**

To simulate the points stored on the electronic boards just select the desired point pressing the keys  and , and press  for the corresponding message to the point to be played by the next stop system. At any time you can press the button  to leave the point simulation menu and return to the configuration menu.



For information on how to operate the Inova GPS system see chapter "GPS (Global Position System).

## 8.4 – Audio System Configuration AUDIO SETTINGS **Rud**

The configuration menu of the audio system allows you to adjust some parameters in order to improve the quality of sound produced by the system.

### 8.4.1 – Volume AUDIO SETTINGS VOLUME: 10 **A-01**

It allows you to adjust the volume in which messages are played.

Setting range: 00 to 96

Factory Default Setting: 80

### 8.4.2 – Bass AUDIO SETTINGS BASS: 00 dB **A-02**

It allows you to adjust the playback level of the lower-frequency sounds of audio messages

Setting range: -12 to +12

Factory Default Setting: 00

### 8.4.3 – Treble AUDIO SETTINGS TREBLE: 00 dB **A-03**




It allows you to adjust the playback level of the high-pitched sounds of audio messages.

Setting range: -12 to +12

Factory Default Setting: 00

## 8.5 – Configuration of extra messages SETTINGS MESSAGE EXTRA





The configuration menu of extra messages which allows the selection of extra messages are displayed on the Electronic LED Panels. This menu is password protected to prevent unwanted messages from being displayed by the user. If necessary, extra messages configuration can be removed from the configuration menu and the menu of available operations without the need to enter your password to change configuration. This is configured through the parameter "Access configuration extra message."

Use the  or  keys to navigate to the message SETTINGS MESSAGE EXTRA **Et-A** on the display and press the key  to access the function.

## 8.5.1 – Extra message out of service

MESSAGE OUT OF  
SERVICE: NO







Should it be necessary for the bus to run without picking up passengers the extra message "out of service" may be displayed on the Electronic LED Panel in order to avoid misunderstandings with users.






On accessing the extra messages menu then the screen  **EF-0** will appear, use the keys  or  to change the value and press key  to confirm the option.








I When configuring the Electronic LED Panels to display the extra message out of service other messages will be disabled.

## 8.5.2 – Selection of Extra Messages

On accessing the extra messages menu, the following screen will appear  **EF-0**. Press the key  to continue with the configuration. The LCD displays the message on the display  **P-01**. Use the key  or  to select which Electronic LED Panel you want to configure the extra messages through its respective addresses, and press key  to confirm.

On accessing the configuration of extra messages Panel Electronic LED display will display the message  **P-on** indicating that this Panel Electronic LED is enabled (on) or disabled (OFF) to display extra messages. Use the key  or  to modify the parameter and the key  to forward or the key  to return to the main menu.

If the Electronic LED Panel is enabled to display extra messages, the message  **01:0F** will be displayed on the display, indicating whether the message is enabled extra 01 (01) or disabled (F) Electronic LED Panel, and (01) the time the extra message will be displayed on the panel, programmable from 01 seconds to 99 seconds. Time will be accessible only to panels of speakers available to present enough of the message; otherwise it will automatically display a text rotation. Control units with the bottom line, LCD display shows the message description. Use key  or  to modify the parameter and the key  to confirm and advance to the next extra message or key  to return to the main menu.

This procedure should be repeated for all the extra messages that are saved on the Electronic LED Panel, which can vary the amount of messages as itinerary projects. The Electronic LED Panel has some fixed extra messages, predefined information. These messages cannot be edited by the INVEDIT software. Message Table extra body panels.

Table of External Message panels

Message	Description
01	It displays the departure time on the Electronic LED Panel.
	It displays the number of boxes on the Electronic LED Panel.
03	It displays the current date and time on the Electronic LED Panel.
04	It displays the temperature on the Electronic LED Panel.
05	It displays messages of greeting: Good Morning, Good Afternoon and Good Evening, according to the clock.
99	It displays the timer of the door lock. (It cannot be disabled in the internal panels).

Table of Internal Message panels

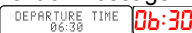



Message	Description
01	It displays the speed of the Electronic LED Panel. (Required GPS system or Automotive Blocker).
02	It displays the speed and temperature of the Electronic LED Panel. (Required GPS system or Automotive Blocker).
03	It displays the current date and time of the Electronic LED Panel.
04	It displays the temperature of the Electronic LED Panel.
05	It displays messages of greeting: Good Morning, Good Afternoon and Good Evening, according to the the clock.
99	It displays the timer of the door lock. (It cannot be disabled in the internal panels).









If a particular Electronic LED Panel message display is disabled for extra messages **E-oF**, as message configuration that were being displayed are not changed, and when it is enabled again, the same messages will be displayed again as before.




You can configure the Electronic LED Panel to display how many extra messages you wish, and you can switch greeting messages, informational messages and dates, along with the itinerary screens.

## 8.5.2.1 – Setting the Time and Departure Gate

By confirming that the extra message No. 01 should appear on Electronic LED Panel, the following message  is displayed indicating the last scheduled departure time. Use key  or  to adjust the time, and then press the key  to adjust

the minutes using they key  or . Press the key again  Press the key again to confirm the new departure time, then prompted the message box displaying the screen , indicating the last number of the departure gate, if set to zero the number of the departure gate will not appear on the panels. Use  or  keys to adjust the number of the desired departure gate. Press key  to confirm the new number of the departure gate or the key  to return to the normal operation without changing the number of the departure gate.

## 8.6 – Parameters for configuring the clock

CLOCK ADJUST 

It allows you to set the local time zone if the GPS module is connected to the main Electronic LED Panel and setting the date and time if the GPS module is not connected to the main Electronic LED Panel.

### 8.6.1 – Setting the Clock

These parameters can adjust the clock and calendar of the Electronic LED Panel. First, you will be required to adjust the hours, then the Minutes, Day, Month, Year, and then it will be automatically displayed the day of the week corresponding to the date set. In the control units with LED display, it is necessary to use the below table to display the day of the week:

00	01	02	03	04	05	06
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

### 8.6.2 – Setting the time zone

TIME SCHEDULE  
00 

It allows you to set the local time zone, date and time updating through the panels of the GPS system. (Only if the GPS is connected).

Setting range: -11 to 12

Factory Default Setting: -03

### 8.6.3 – Automatic adjustment of Daylight Savings Time

SUMMER SCHEDULE  
AUTO ADJUST: NO 

In places that have daylight savings time this option automatically adjusts the time for the local time zone. (Only if the GPS is connected).

Setting range: 00 a 01

Factory Default Setting: 01

00 = It does not set the daylight savings time.

01 = It sets the daylight savings time automatically.





I According to Decree No. 6558 of 8 September 2008 the states of Rio Grande do Sul, Santa Catarina, Paraná, São Paulo, Rio de Janeiro, Espírito Santo, Minas Gerais, Goiás, Mato Grosso, Mato Grosso do Sul and the Federal District it is established that as of midnight of the third Sunday in October each year, until midnight of the third Sunday of the month of February the following year, it should apply daylight savings time early in sixty minutes in relation to the legal time.

## 9 – CONFIGURATION OF ADDRESSES

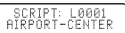

When multiple Electronic LED Panels are installed on the same network, so that each Electronic LED Panel display its respective screens, you must assign a specific address (ID) to each one. Thus, when messages are transferred over the network each Electronic LED Panel will receive its respective screens.

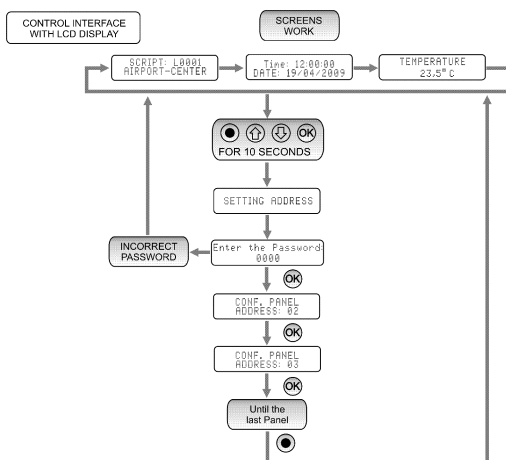
When only one Electronic LED Panel is installed, it is not necessary to do this procedure, since the main Electronic LED Panel does not need to communicate with other networked Electronic LED Panels.

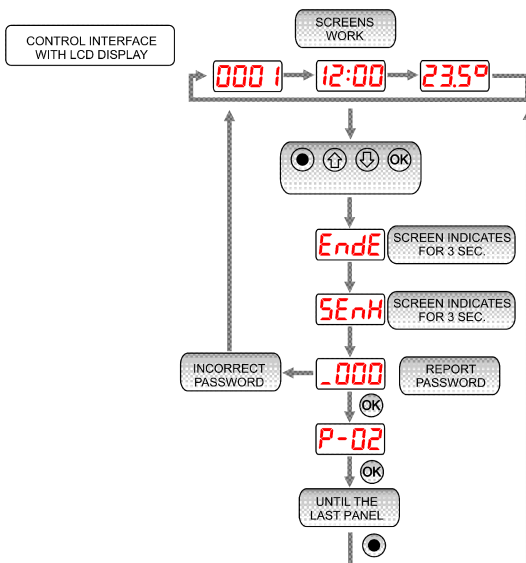
When you need to replace a Electronic LED Panel, which is not the main Electronic LED Panel, you must also reconfigure the network addresses to include the new Electronic LED Panel with the same address as the Electronic LED Panel removed.

The main Electronic LED Panel will always have the address 01, and the other panels installed on the network receive sequential addresses from 02.

The configuration menu of the work mode of the Electronic LED Panel is shown below. Then each parameter is presented in detail.

The messages are represented by  relating control units with LCD display and the messages are represented by  relating control units with LED display.

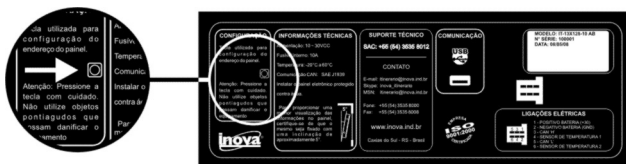




To access the menu configuration addresses and keep the keys , , and pressed for 10 seconds, when the message **SET OF ADDRESS** **EndE** will be shown on the display for 3 seconds. Soon after that your password will be required, presenting the message **TYPE PASSWORD** **SEnH** on the display for 3 seconds.

Use the keys and to adjust the value of each digit and key **FIG** to advance to the next digit and confirm the password value.

Below is the key address configuration used to configure the address of an auxiliary Electronic LED Panel, as seen in Section 9.1




## 9.1 – Configuring a new network

The main Electronic LED Panel main will display the message

SET OF  
ADDRESS:02

**P-02** on the display. At this moment the key should be pressed on the back of the Electronic LED Panel which should receive the address 02. Once the address 02 is assigned to a Electronic LED Panel LED, the main Electronic LED Panel will show the

SET OF  
ADDRESS:03 **P-03** display, prompting you to press the key on the Electronic LED Panel which should receive the address 03. This procedure should be repeated until all installed Electronic LED Panels have been configured.

After configuring all the installed Electronic LED Panels on the network press the key  to exit the configuration menu and return to normal operation.





! At any time the addresses can be reconfigured, and you can change the address of all the Electronic LED Panels. Make sure that the INVEDIT software configuration is with the same address configuration to avoid transferring incorrect data.

## 9.2 – Reconfiguring the network when a Electronic LED Panel is Replaced






When an Electronic LED Panel is replaced you must configure it with the same address as the Electronic LED Panel removed.

The main Electronic LED Panel will display the message

SET OF  
ADDRESS:02 **P-02** on the display. If the Electronic LED Panel 02 has not been replaced, press the key  to confirm that the address 02 is already configured and advance to the next Electronic LED Panel. When the main Electronic LED Panel requests the configuration of address of the Electronic LED Panel ED replaced, press the key located on the back cover of Electronic LED Panel that was installed.

After you finish configuring of all the Electronic LED Panels replaced, press the key  to exit the configuration menu and return to the normal operation.

## 10 – OPERATION

To access the menu operation of the Electronic LED Panel press key . Use the keys  and  to navigate between menus. Use the key  to access functions, or the key  to return or exit the menu:

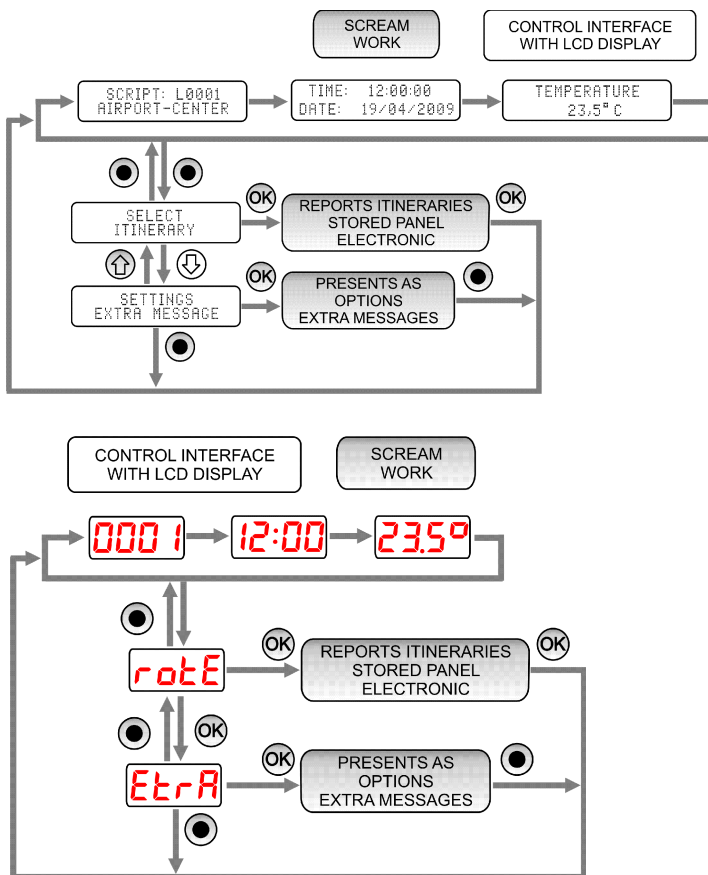
- Itinerary Selection
- Configuring extra message (check the item: Configurations of extra messages)

The menu operation mode of the work of the Electronic LED Panel is shown below.

The messages are represented by

SCRIPT: L0001  
AIRPORT-CENTER

relating control units with LCD display and the messages are represented by **000 1** relating control units with LED display.



## 10.1 – Itinerary Selection

Use the or keys to navigate until message appears on the display and press the key to access the function.

Then the message will be displayed on the display, indicating the number of the currently selected itinerary. Control units with the LCD, the lower line of the display will indicate the description of the itinerary. There are two ways to select the itinerary you wish to display; they can be programmed via the parameter "Itinerary selection mode."

## 10.1.1 - Select the itinerary type digit by digit from 0 to 9

To indicate the number of the itinerary that you wish to display and use the keys ⤴ IDA and ⤵ VOLTA to select the digit to be programmed and the keys ⬆ and ⬇ to adjust the value of each digit and the key OK to confirm the value or use the key ⬅ to return to the menu operation without change the itinerary selected.

## 10.1.2 - Select the itinerary through the whole number from 0000 to 9999

To indicate the number of the itinerary that you wish to display and use the keys ⤴ and ⤵ to select the digit to be programmed and the keys OK to confirm the value or use the key ⬅ to return to the menu operation without change the itinerary selected.

## 10.2 – Display Mode Normal or Round Trip

There are two ways of displaying messages on Electronic LED Panel:

**Normal Mode or Round Trip Mode.** These modes are configured when the messages are edited in the INVEDIT software and the Electronic LED Panel will work under this configuration. You cannot change the display mode directly through Electronic LED Panel.

**Normal mode:** All itinerary screens are displayed in Electronic LED Panel.

**Round Trip Mode:** The itinerary screens are divided into two groups: round trip. Pressing the key ⤴ IDA, the Electronic LED Panel will display only the screens of the departure group and when you press the Key ⤵ VOLTA, the Electronic LED Panel will display only the screens of the Return group. In the Electronic LED Panel that have the next system for the exchange of screens of round trip, they can be configured to automatic mode using the parameter "Selection of the round trip itinerary by means of the GPS." To facilitate quick identification of which group is being displayed on the Electronic LED Panel, the respective key will remain on.

## 10.3 – Configuration of extra messages



For information on how to change the configuration of message, refer to extra chapter "Configuration of extra messages."

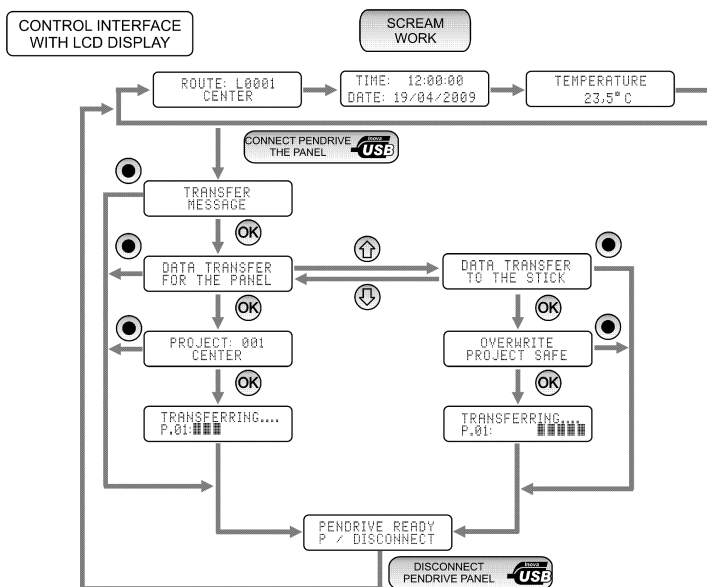
## 10.4 – Indications and warnings

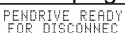
During the operation of the Electronic LED Panel, the control units can display messages about the status of some components, as described below.

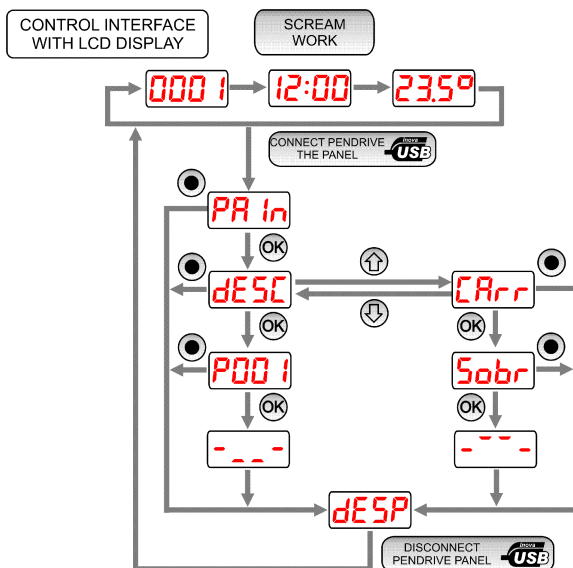
TEMPERATURE ERROR	Err 1	: Temperature sensor damaged.
DEVICE ERROR	Err 3	: File not found on the flash drive.
RECEIVER ERROR	Err 4	: No signal for the next stop system.
LOCATED... SEEKING...	ProC	: Number of satellites found by the next stop system.

## 11 – DATA TRANSFER VIA USB

To download the itineraries from your computer to the Electronic LED Panel, or between two or more Electronic LED Panel, you should use a flash drive without the need for common device adapter. When connecting the flash drive to the USB connector, the Electronic LED Panel automatically access the menu data transfer. The diagram below illustrates the operation of the USB device. The messages are represented by  relating control units with LCD display and the messages are represented by  relating control units with LED display.



Just unplug the flash drive after the message is displayed on the display  **desp**. If this procedure is not followed, the files of the flash drive may be corrupted.



## 11.1 – Download Flash drive files to the Electronic LED Panels

When you connect the flash drive in the main panel displays the message on the display **TRANSFER OF MESSAGES** **PR In**. Press **OK** to proceed, the following screen is displayed **TRANSFER DATA TO PANEL** **dESC**, press the key **OK** to access the function.

Then the message will be displayed on the display asking **PROJECT AIRPORT-CENTER** **P001** to select which project you wish to download (they will list the projects that are recorded on the flash drive), and press the key **OK** to confirm the operation.

While files are being transferred to the Electronic LED Panels will display the message on **TRANSFERRED... P01:■■■■** **---** the display.

After completing the transfer message will appear on the display **dESP** stating that the flash drive can be safely disconnected. **PENDRIVE READY FOR DISCONNEC**

## 11.2 – Load Files from the Electronic LED Panel to the Flash Drive

Use the keys **↑** or **↓** to navigate until the message **TRANSFER DATA TO PROJECT** **CARR** appears and press they key **OK** to access the function.

Next it will be checked if there is already a project on the flash drive with the same name recorded in the Electronic LED Panel. If there are projects with the same name, they will be displayed on the display **OVERWRITE PROJECT EXCEPT** **Sobr** message warning that the existing project on the flash drive will be replaced by the project except in panel LEDs. Press key

OK to confirm the replacement or the key ● to cancel the operation.

While files are being transferred to the flash drive, you will see the message on the display



Upon completion of the transfer message will appear on the display



**dESP** stating that the flash drive can now be safely disconnected

## 12 – NEXT STOP SYSTEM VIA GPS (Global Position System)

The Inova next stop system GPS is used to indicate the internal Electronic LED Panela and through the next stop audio announcement to be made by the vehicle while it approaches the stop or when it is going towards it. The flow chart below shows the order of steps to be performed to configure the next stop system Inova via GPS.



I Modification of files or folders from the flash drive before the end of the four steps described above may result in loss of points or messages of the the itinary.



I By connecting the GPS and find a satellite, it automatically disables the clock settings, updating date and time by GPS.

### 12.1 - Storing the stop points

To access the menu to store the stop points see the chapter "CONFIGURATIONS". By accessing the storage parameter of the stop points, the following screen will appear, indicating the points to be saved as a reference stop



To store the point simply press the OK and move to the next point. When storing the last point of the itinerary run by the vehicle press ● to finish the process.

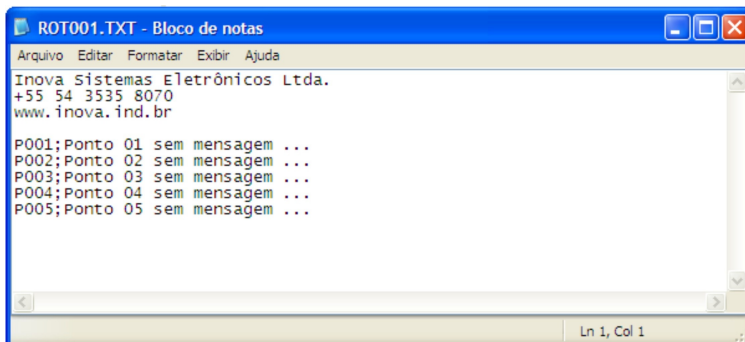


I For the correct operation of the Inova GPS during the marking of the vehicle stopping points, you must run exactly the same itinerary that will be performed later, thus allowing the recognition of displacement directions for each point.



## 12.2 – Text Messaging for next stop

To access the file that stores the stop points, download the files to the flash drive. After plug the flash drive into a computer and open the file in the folder ROTXXX.txt "INOVAGPS" through Notepad. The file must be formatted according to the image below.



In this file you must keep the description "P001," at the beginning of the line and just replace the text "01 point and no message ..." the message you want to display when the vehicle is approaching the point. The message to be displayed must not exceed the maximum limit of 230 characters.

After editing the messages to be displayed, it is necessary to transfer the files from the flash to Electronic LED Panels.



When editing next stop messages you should be very careful not to delete the text "P001," because this prefix indicates the panel which message should display when approaching the stop, if this prefix is off the internal panel displays the following message: " POINT WIRHOUT MESSAGE ...".

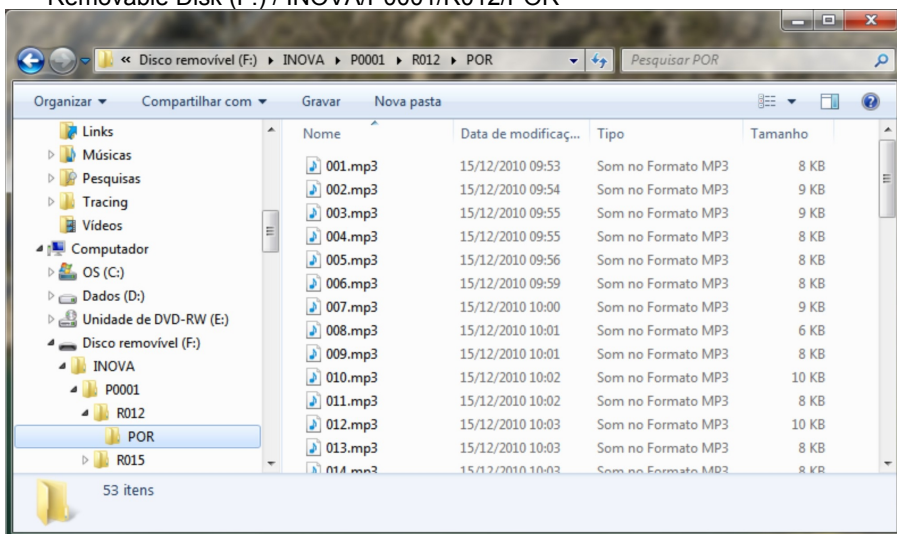
## 12.3 – Next stop audio messages

The Inova next stop system uses the file system attached to the MP3 technology of data storage through the storage device Sdcard (memory card), which brings security and reliability in data storage.

### 12.3.1 – MP3 audio files

The next stop audio messages should be recorded in MP3 format with quality rate of 56Kbps and his name should match the number of the stop point that should be performed and stored in a folder structure as described below.

Removable Disk (F:) / INOVA/P0001/R012/POR



- **Removable Disk (F:)** is the storage device "sdcard" that should not be renamed and must be formatted in FAT32 standard;
- **INOVA**: is the folder for the next stop system data;
- **P0001**: is the folder corresponding to the number generated in the project INVedit;
- **R012**, is the folder corresponding to the number of the itinerary to run the marking of stop points;
- **POR**: is the folder for the language used on the Electronic LED Panel, if you want to use the Spanish language this folder should be nominated for "ESP", and in case of use of English should be renamed "ING".

## 13 – MESSAGE EDITING SOFTWARE - INVEDIT

### 13.1 – Installing the software

The INVEDIT software was developed using the latest technology to ensure safety and system reliability. The INVEDIT software will transform the process of creating and editing itineraries in a very pleasant task. The software has an interactive interface that assists the user throughout the process of creating and editing itineraries. Based on surveys with users, functionalities that meet the needs of most demanding experienced users were developed as well as beginner users.

Minimum configuration for the INVEDIT software installation:

Windows 98, Windows Millennium, Windows XP. 1GHz processor, 128MB of RAM and 300MB available hard disk space.

Recommended configuration for the INVEDIT software installation:

Windows XP SP3, Windows 2000 SP4, Windows 2003, Windows Vista, 1GHz processor, 512MB of RAM and 500MB available hard disk space.



If the user is using an earlier version of INVedit and would like to update it, it is necessary that it be uninstalled using the Control Panel \ Add or Remove Programs. If in doubt, please contact the support staff of Inova Sistemas Eletrônicos Ltda.

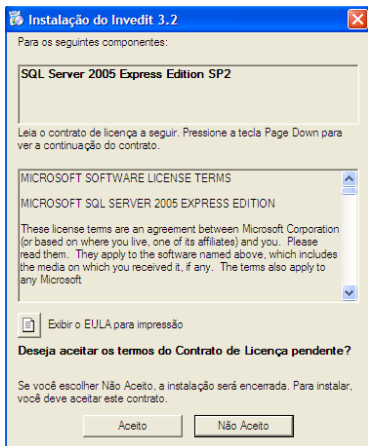


When running the software update, it is recommended that you back up to prevent loss of existing projects. (see item Export files).

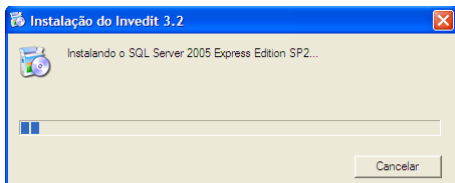
To run the software installation, it is required to have the INVedit files that are available in two forms:

- 1 - In the flash drive supplied with the kit product;
- 2 - For free download on the Internet.

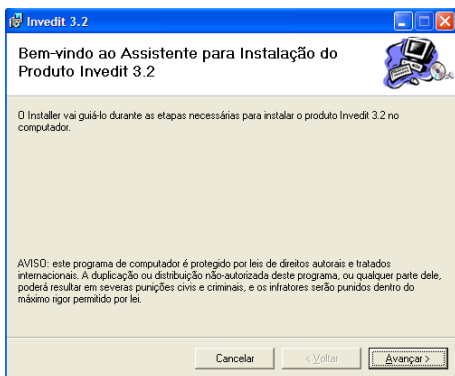
To start the installation you must run the setup.exe file and follow these steps:



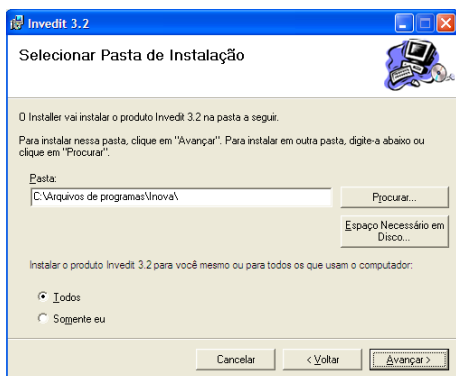
1 - When you run the setup.exe file, this window will appear, stating that the installation process started. The SQL Server software stores all data generated through the INVedit. To continue the installation, click the "Accept" button.



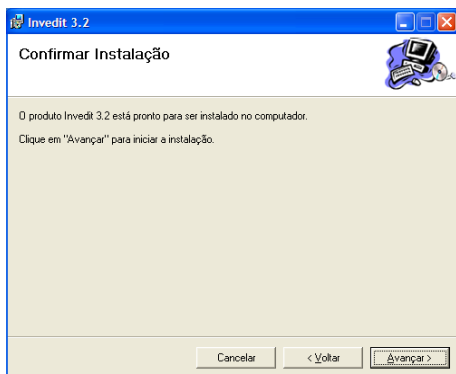
2 - This process happens automatically, you must wait until the installation of SQL Server Software finishes.



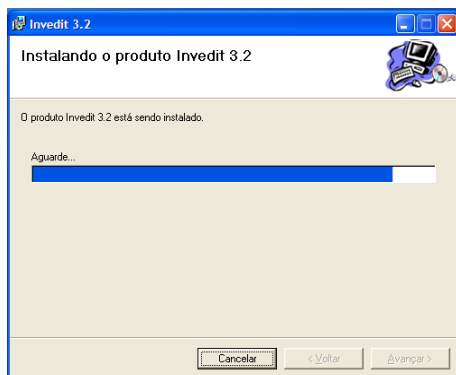
3 - This screen indicates the beginning of the installation wizard software INVedit to continue with the installation click "Next."



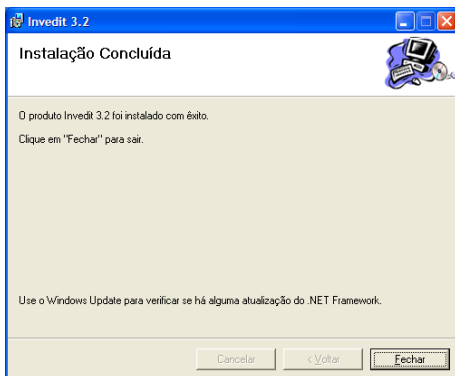
4 - This window specifies the directory where the INVedit software will be installed. By default the software is installed in C: \ Program Files \ Inova. You can change the installation directory should you desire using the "Browse" button. To proceed you need to click Next.



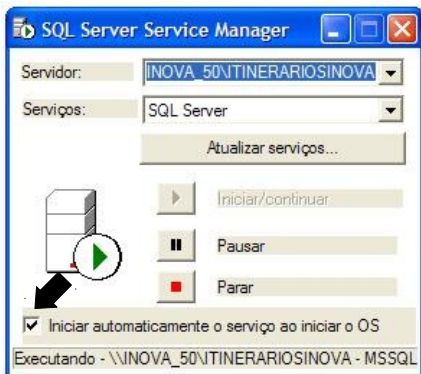
5 - After entering the site, the software will be ready to start the process. Before clicking Next is recommended to save all files and end all open applications.



6 - During installation this screen is displayed, indicating the installation progress. According to the computer configuration this operation may take a few minutes to complete. You must wait until the installation is complete.



7 - After completing the installation, the software displays this screen stating that the process was completed successfully. To proceed you need to click Close.



8 - If the INVEDIT software is installed on a computer running Windows 98 Second Edition, after installing this requires two clicks on the SQL Server icon in the taskbar to open this window and click the box indicated for the software to start automatically whenever turning on the computer. In Windows XP and Vista, you do not need to perform this procedure, because the software is already installed with this configuration option.

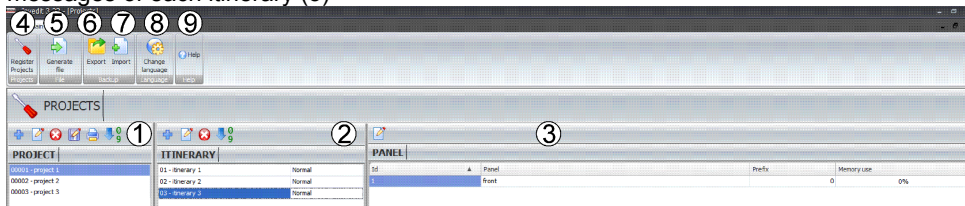
## 13.2 – Definitions

To better understand how the INVedit software works, it is important to know some definitions:

- Message: It is the text or image that appears on the Electronic LED Panel during operation.
- Itinerary: It is a set of messages that identify the destination or the itinerary of the bus.
- Extra Message: It is a set of messages that can be alternated with an itinerary. It may be greeting messages, dates, departure time, arrival time, etc.
- Project: It is a set of itineraries and extra messages. This set can be edited in whatever way is most convenient. For example, you can have a project for the bus with a front Electronic LED Panel, another project for the bus with a side Electronic LED Panel, or even a project with a set of itineraries and extra messages for an area of the city, another project to another part of town. A bus can receive messages from only one project at a time and may the recorded project can be replaced at any time with the help of a flash drive.

## 13.3 – Introducing the INVEDIT

The INVEDIT work screen is shown below. On this screen you can easily view existing projects (1), the itineraries for each project (2) and have direct access to the messages of each itinerary (3)



In the main toolbar, the following buttons are available:

- 04 - Project Registration
- 05 - Generate File
- 06 - Export
- 07 - Import
- 08 - Change Language
- 09 - Help

Specific tools are available for each column of this screen as shown below:

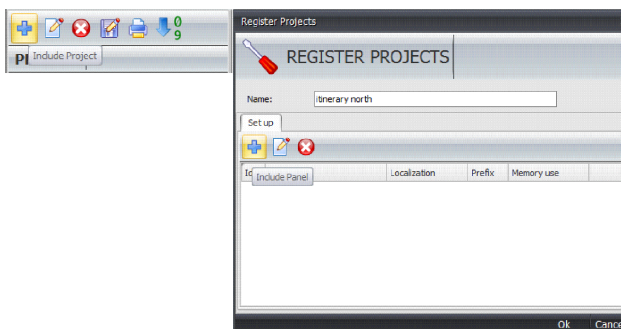


- 1 - Add Project: It allows you to create a new itinerary projects.
- 2 - Edit Project: It allows you to view or modify the configuration of the selected project.
- 3 - Delete Project: It allows you to delete the selected project.
- 4 - Save As: It allows you to create a new project with all the features of the itinerary selected.
- 5 - Report: It allows you to print a report of the project with the selected itineraries and their characteristics.
- 6 - Order Project: It allows you to reorder projects.
- 7 - Include Itinerary: It allows you to create a new itinerary in the selected project.
- 8 - Edit Itinerary: It allows you to view or modify the configuration itinerary selected.
- 9 - Delete Itinerary: It allows you to delete the selected itinerary.
- 10 - Order Itinerary: It allows you to reorder the itineraries.
- 11 - Edit messages: It allows you to edit the selected itinerary messages.

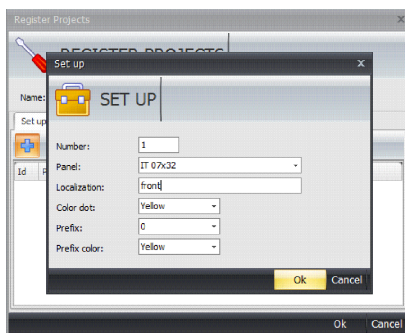
## 13.4 – Project Configuration Tools

### 13.4.1 – Creating and Editing Project

By clicking the Add Project or Edit Project, the Registration Project screen will be opened, which will determine the configuration Electronic LED Panels of the new project.



In the Name field enter a name for the project with up to 40 characters. This name will be displayed on the display interface control with LCD display when selecting which project will be transferred to the bus through the flash drive. It is advisable to use names that easily identify which itineraries or which configuration of Electronic LED Panels refers this project to assist in the transfer process for the Electronic LED Panel on the bus. Buttons are available to include panel, edit the characteristics of a panel and delete panel. By clicking the Add Panel or Edit Panel button, the window below will be opened:



It is important to include the project panels with exactly the same sequence and models for the bus to ensure that each Electronic LED Panel receive messages correctly. Refer to "Configurations" for more information on how to identify the address and type of each panel

-Number (address): It indicates that the address (ID) Electronic LED Panel being inserted. It checks the address of each panel to enter the model and its number (address) correctly.

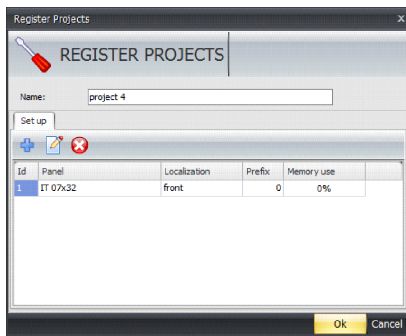
- Panel: This field allows you to select which model of the Electronic LED Panel the above address.

- Location: This field is used to enter the location where this panel or some form of identification, for example: Front, Side or Rear. This field will help identify each panel



when editing messages.

- Color points: It indicates the color of the LED lights of the Electronic LED Panel.
- Prefix: It indicates how many columns of LED lights will be used for identifying the prefix. It allows splinting the editing screen in two parts: a prefix to identify the bus or the number of the itinerary, for example, and another part of the itinerary for the messages, the prefix field is enabled for 16, 24, 32 and 48 columns.
- Color Prefix: It indicates the color of the LED lights in the area destined to the prefix. It allows you to edit the itineraries that will be viewed as the result on the Electronic LED Panel. You can also use this feature to simply assist in the editing of itineraries, allowing you easily to visualize the areas destined for the prefix and messages.



To complete and save the configurations, you must click the OK button or the Cancel button to exit without saving changes.



After configuring the project features; they cannot be modified during the creation and editing itineraries. If you need to change any features, you must edit the project to access these configurations. This prevents an inexperienced user to modify a project feature incorrectly while editing the itineraries, which can cause problems displaying the message on the Electronic LED Panels.

### 13.4.2 – Creation of Project Based on an existing one

Through the Save As button you can create a new project by copying all the features and itineraries from another project, which should be selected



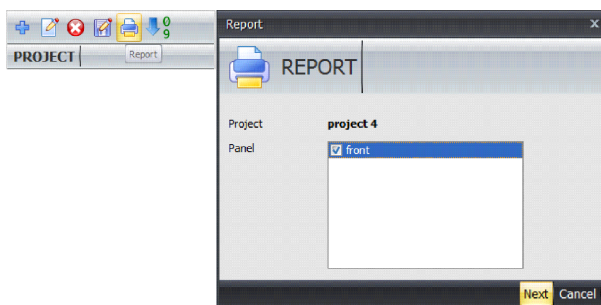
This feature can be used to avoid repeating the work of editing itineraries for two similar configurations of Electronic LED Panels. For example, when you need to create the

same itineraries for a bus with a front panel and there is only one project with a front panel, one side and a back panel, just save the existing project with another name and delete the unnecessary panels.

## 13.4.3 – Creating Itinerary Reports

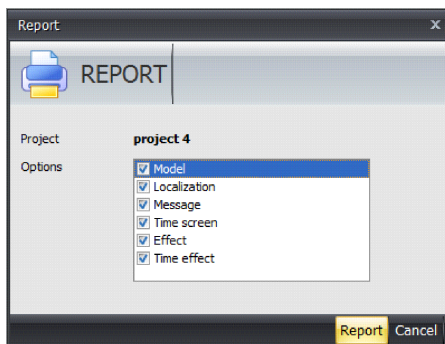
Through the Report button you can create various reports, listing of the itineraries of the selected project, and you can select various display configurations.

The first step is to select which panels present the information by clicking the box next to each panel listed. You must select at least one panel from the list to proceed.

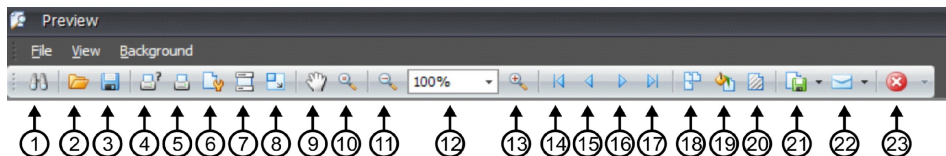


After selecting the panels, you must select which information will be shown in the report. You can set up various reports by combining the following information

- The standard Electronic LED Panel;
- The location of the panel;
- The text of the screens of each circuit;
- The residence time of each screen;
- The effect of each input screen;
- The speed of the effect of each input screen.



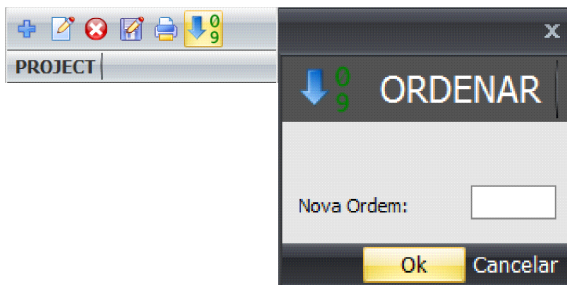
You can, however, choose not to select any option. In this example the report is a list of names of itineraries and their reference numbers. Clicking the report button, the report screen preview will be opened. The tools available on this screen are shown below:



1. Search (Search): It searches words or phrases throughout the report.
2. Open (Open): It opens a previously saved report file.
3. Save (Save): It saves the report.
4. Print ... (Print. ...): It opens the printer properties to select the printer.
5. Print (Print): It sends the report directly to the printer without opening the window print properties.
6. Page Setup (Page Setup): It Opens the Page Setup to adjust the characteristics of the paper.
7. Header and Footer (Header and Footer): It sets header and footer for the report. This function is disabled because the program itself creates the standard header and footer.
8. Scale (Scale): It sets the scale of printing the report to the desired size.
9. Hand Tool (Hand Tool): It allows you to browse the report on the screen with the help of the mouse.
10. Magnifier (Magnifier): It changes the magnification factor of the report display on the screen.
11. Zoom Out (Zoom Out): It decreases the magnification factor of the report display on the screen.
12. Zoom (Zoom): It adjusts the magnification factor of the report display on the screen.
13. Zoom In (Zoom In): It increases the magnification factor of the report display on the screen.
14. Home Page (First Page): It moves the display of the report to the home page.
15. Previous Page (Previous Page): It moves the display of the report to the previous page.
16. Next Page (Next Page): It moves the display of the report to the next page.
17. Last Page (Last Page): It moves the display of the report to the last page.
18. Multiple Pages (Multiple Pages): It set the display of multiple pages at once.
19. Background Color (Background Color): It defines the background color of the page.
20. Watermark (Watermark): It allows you to insert a watermark in the report. You can enter either text or image or both text and image.
21. Document Export (Document Export): It allows you to save the report in PDF or JPG, BMP, TIF, etc ...
22. E-mail (Send via E-mail): It allows you to export the report in PDF or JPG, BMP, TIF, etc ... and e-mail.
23. Exit (Exit): It closes the report window and returns to the message editor.

## 13.4.4 – Ordering the project

To change the order of existing projects it is necessary to select the project you want to move and click on the Order Project button. The following screen will appear.



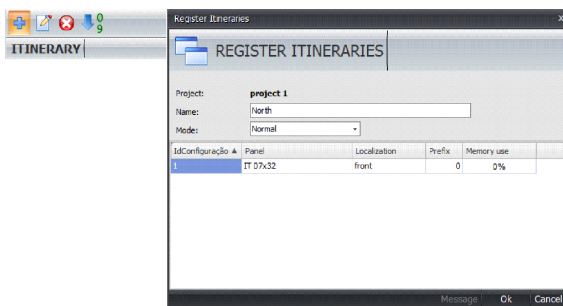
On this screen in the New Order field, it should be appointed to which position you want to move the selected project and click on the OK button. If you do not want to reorder the projects, just click on the Cancel button to return to the INVedit home screen.



! When a project is reordered, all projects that are below the indicated position in the New Order field will be renumbered, thus preventing two projects take the same position.

## 13.5 – Configuration of Itinerary Tools

By clicking the Add Itinerary button or Edit Itinerary, the Registration Itinerary screen will be opened:



When adding a new itinerary, the information is displayed on the configuration of the project and the itinerary:

- Project Name: it shows the name of the project that is being edited
- Itinerary Name: It allows you to enter a name for the itinerary up to 40 characters. This name will be used to select the itineraries on the Electronic LED Panel.
- Itinerary mode: It can be entered three itinerary modes:
  - Normal mode: The Electronic LED Panel displays all screens sequentially.
  - Round Trip Mode: It divides the screen into two groups to be displayed separately

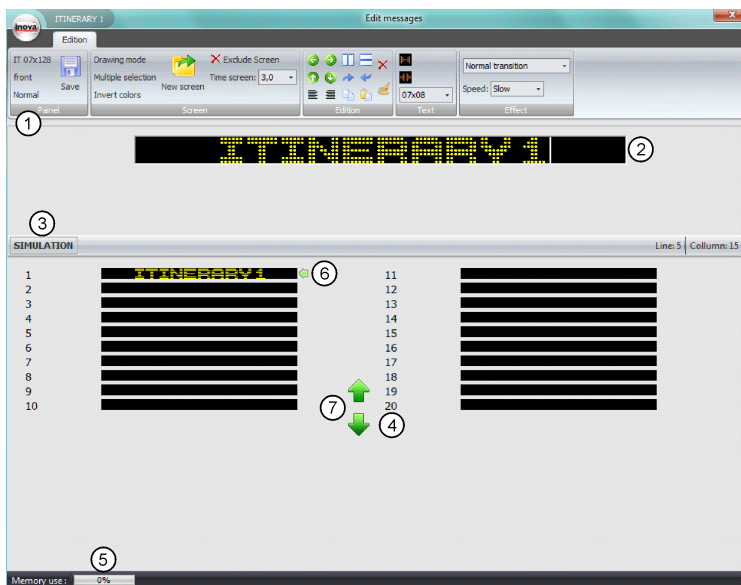
on the Electronic LED Panel according to the the direction the bus is going.

- Extra Mode Message: The Electronic LED Panel displays these messages alternately with the other two modes, as it is configured on the P Electronic LED Panel.

- List of panels of the project: It displays the panels of the project, its configurations and the amount of memory used in each panel in this project.

Clicking the OK button, it will open the editing message screen. On This screen is available all

On this screen the following components are included:



01 - Tools for editing and configuration of the message.

02 - Area for editing messages.

03 - Button to open the simulator to display the message exchanges.

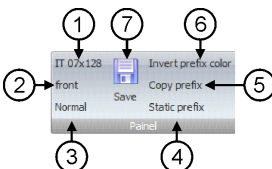
04 - In this component, thumbnail screens of itineraries are displayed script to help the process of editing messages, where you can easily view all the screens of the itinerary simultaneously. By clicking on a thumbnail twice, it will open in the editing area.

05 - Graph of the memory usage already used on this panel for this project.

06 – Arrow to indicate the screen which is being edited.

07 - Buttons to order message screens.

## 13.5.1- Panel Toolbar



1 – It displays the model of the panel being edited. This field can only be edited in the registration of the project.

2 – It displays the location of the panel being edited. This field can only be edited in the registration of the project.

3 – It displays the selected itinerary mode: Normal, Round Trip and Extra Message. This field can only be edited in the itinerary registration.

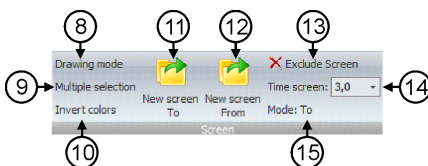
4 - Static Prefix: it causes the screen effect not act on the prefix.

5 - Copying Prefix: It copies the contents of the prefix for the other screens of the itinerary. While this button is active, all new screens included automatically receive the same contents of the matrix screen in the prefix field.

6 – It allows reversing the corresponding Electronic LED Panel colors only in prefix area.

7 - Saving: It allows saving the changes made at any time.

## 13.5.2 - Screen Toolbar



8 - Drawing mode: it allows switching the editing text mode for drawing text and vice versa.

9 - Multiple Selection: it allows you to select several pictures or text simultaneously.

10 - Reverse Colors: it allows you to reverse the colors of the panel, i.e., the LED lights that were on will be turned off and vice versa. It allows having all the LED lights on the panel on and in the place of text, the LED lights remain off.

11 - New Screen / New Departure Screen: It allows you to add new screens in the itinerary. If the itinerary is the round trip, it only includes departure screens.

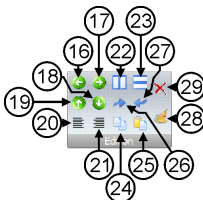
12 - New Screen Return: To insert new return screens in the itinerary. This button appears only if the itinerary is in the round trip mode.

13 - Delete Screen: it allows you to delete the selected screen.

14 - Screen Time: it allows you to adjust how long the display screen on the Electronic LED Panel. Each screen can have a different time, as needed.

15 - Mode: it displays whether the message being edited is departure or return. This field appears only if the itinerary is in round trip mode.

## 13.5.3 - Edition Toolbar



16 - Moving Left: It moves the selected text or picture to the left, always one column at a time.

17 – Moving Right: It moves the selected text or picture to the right, always a column at a time.

18 - Moving Down: It moves the selected text or drawing down, always a line at a time.

19 - Moving Up: It moves the selected text or drawing up, always a line at a time.

20 - Aligning Left: It positions the selected text or picture on the left side of the screen.

21 – Aligning Right: It positions the selected text or picture on the right side of the screen.

22 - Centering Horizontally: It positions the selected text or picture at the center of the screen horizontally.

23 - Centering Vertically: It positions the selected text or drawing at the center of the screen vertically.

24 - Copying: It copies the selected text or drawing to the clipboard.

25 - Pasting: It allows you to paste the screen being edited in a text or drawing previously copied to the clipboard.

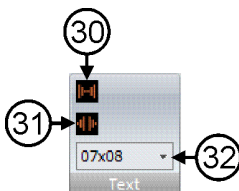
26 - Redoing: It allows you to redo previously undone changes.

27 – Undoing: it allows you to undo changes and return the screen to the state before the change.

28 – Clearing the screen: It allows you to delete the entire contents of the selected screen.

29 - Deleting Text / Drawing: It allows you to delete selected text or drawing.

## 13.5.4 - Text Toolbar



30 - Decreasing Spacing: It decreases the space between each letter.

31 - Increasing Spacing: It increases the space between each letter.

32 - Selecting the font size according to the Electronic LED Panel model and message size.

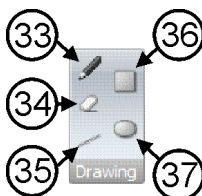
### 13.5.4.1 - INVedit Fonts

The INVedit software allows editing of messages through text fonts and icon fonts. The fonts are indicated as follows INVedit YYxZZ, where "YY" is the height of the font lines and "ZZ" is the width of the font lines. To differentiate the icon fonts from the text fonts, they are described by the text value of "Y" as their number lines and "ZZ" equal to "00". For the use of icon fonts, you must select the font size desired according to panel size and function with the caps lock off by pressing the corresponding key for the desired icon.

Icon:								
scream:	p	i	o	+	!	e	?	c
Icon:								
scream:	1	2	3	4	5	6	7	9

## 13.5.5 - Drawing Toolbar

It only appears if the Drawing Mode button (8) is selected, the text toolbar will be replaced by the drawing toolbar:





33 - Free Drawing: it allows you to make free hand drawings by clicking the left mouse button and dragging over the editing area to turn on the required the LED lights.

34 - Deleting: it deletes, or turns off, the LED lights of a drawing by clicking the left mouse button and dragging over the editing area.

35 - Line: it draws a straight line by positioning the mouse at the starting position and pressing the left end position of the line.

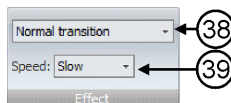
36 - Rectangle: it draws a rectangle by positioning the mouse at the starting position and pressing the left end position of the rectangle.

37 - Circle: It draws a circle by placing the mouse on the starting position and pressing the left end position of the circle.

Permite configurar como será a entrada da mensagem que está sendo editada. A configuração de efeitos de cada mensagem é feito individualmente.

## 13.5.6 - Effect Toolbar

It allows you to configure how the message entry being edited will be like. The effects of each configuration message are done individually.



38 - Selecting the type of message transition effect.

39 - Selecting the speed of message transition.

## 13.6 – Message Transition Effects

The message transition effects can be configured in the most convenient way, without preventing the Electronic LED Panel to meet the existing legislation on passenger transport. The effects are shown as follows:

### 13.6.1 – Normal Transition

When selected normal transition is selected, there will be no effect. The transition will be static, the previous message is erased and the new message appears in the Electronic LED Panel.



## 13.6.2 – Sliding Up

The previous message is erased and the new message appears, sliding from the bottom up.



## 13.6.3 – Sliding Down

The previous message is erased and the new message appears, sliding from the top down.



## 13.6.4 – Sliding to the Left

The previous message is erased and the new message appears, sliding from right to left.



## 13.6.5 – Sliding to the Right

The previous message is erased and the new message appears, sliding from left to right.



## 13.6.6 – Pushing Up



The new message slides from bottom to top, pushing the previous message "out of" the Electronic LED Panel.

## 13.6.7 – Pushing Down

The new message slides from top to bottom, pushing the previous message "out of" the Electronic LED Panel.



## 13.6.8 – Pushing to the Left

The new message glides from right to left, pushing the message previous "out of" the Electronic LED Panel.



## 13.6.9 – Pushing to the Right

The new message slides from left to right, pushing the previous message "out of" the Electronic LED Panel.



## 13.6.10 – Revealing



The previous message is erased and the new message is revealed from left to right.

## 13.6.11 – Revealing Inverted

All the LED lights on the panel are turned on and then the new screen is revealed, from left to right.



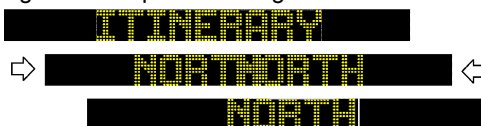
## 13.6.12 – Dissolving

The previous message is erased and the new message is formed, connecting the required LED lights randomly.



## 13.6.13 – Dissolving Inverted

It turns on all the LED lights on Electronic LED Panel, and the new message is formed, randomly turning off the required LED lights.



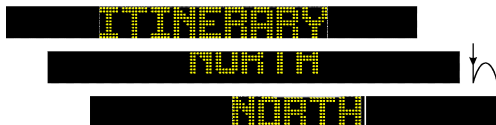
## 13.6.14 – Overlaying

Two images of the new message slide, one from left to right and the other from right to left until they overlap in the center panel to form a single image.



## 13.6.15 – Bouncing

The new message slides from top to bottom. When it arrives at the base of the Electronic LED Panel, the message bounces like a ball.



## 13.6.16 – Rotating Text

In this mode the edit screen can be expanded, and you can write a message longer than the Electronic LED Panel. This message will slide from right to left until the entire message has been displayed.

This effect is similar to that one used in internal message boards, with the differential feature that it can be used on any panel of the bus, regardless of the model and position.



## 13.6.17 – Two-Line Rotating Text

In this mode the screen is divided by a separator line into two parts where the upper part remains still and the lower part reproduces the rotating text effect. The number of lines of each part of the Electronic LED Panel is according to the following table.

Number of lines of	Upper Part	Lower Part	Separator Line
11 lines	5 lines	5 lines	6 <sup>a</sup> lines
13 lines	6 lines	6 lines	7 <sup>a</sup> lines
17 lines	8 lines	8 lines	9 <sup>a</sup> lines

To avoid the inappropriate edits, the INVedit software limits the maximum number of lines of font according to selected panel.



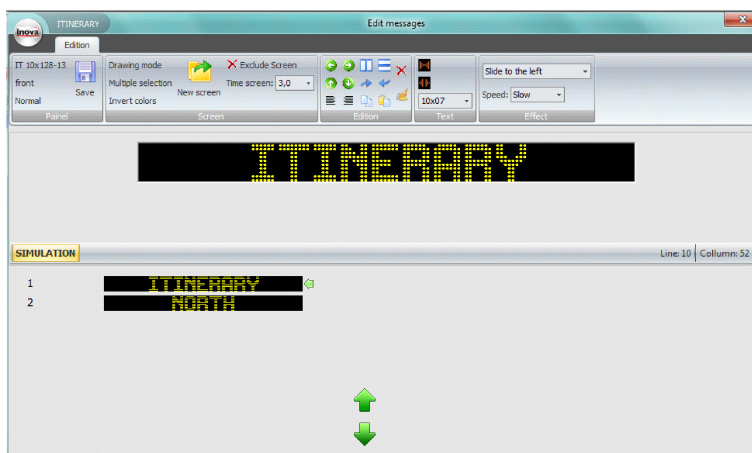
In the case of the Electronic LED Panels have prefix higher than 0 prefix, the prefix of all the screens of the itinerary will be static.

## 13.6.18 – Reserve Effects

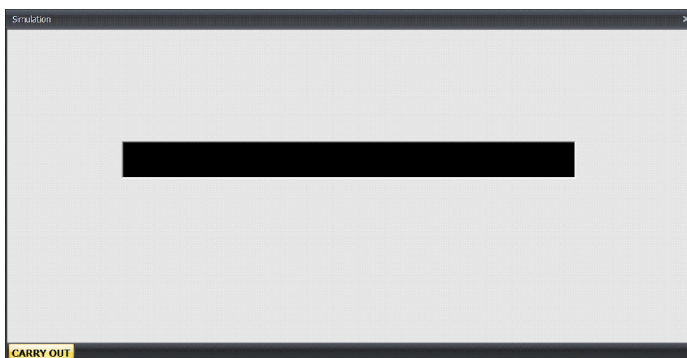
The reserve effects do not have movements in the screen transitions. They are available for specific applications, where a different effect is necessary. The reserve effects are numbered from 1 to 15

## 13.7 – Simulator

To access the simulator, it is necessary to click the Simulator button below the editing area. The simulator will show the edit screen for the selected panel.



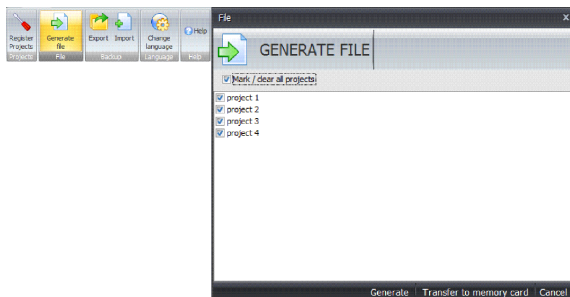
To start the simulation, it is necessary to click the Run button. To cancel the simulation, just close this window.



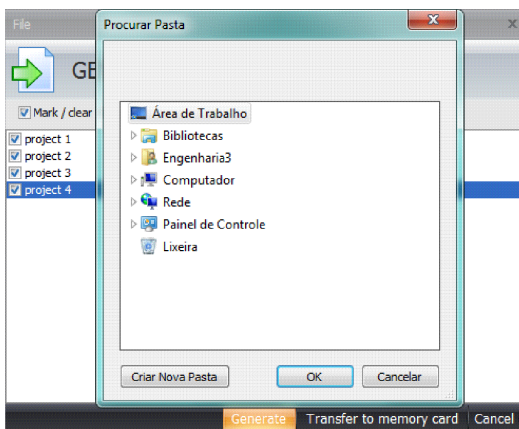
## 13.8 – Transferring messages to the Electronic LED Panels

After editing the itineraries, it will be necessary to transfer them to Electronic LED Panels. For this task you will need only a flash drive, without the use of cables, interfaces transfer and power supply.

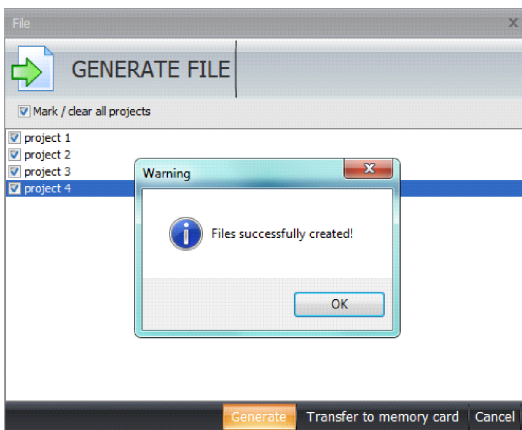
To generate the file to be transferred to the Electronic LED Panels, you must click the Generate File button on the main toolbar:



It will be necessary to select the projects you want to generate the files. You can select as many projects as desired. Each project will result in a file that will be downloaded from the LED Electronic Panels. After selecting the projects, you must click the Generate button.



The next step is to select the storage location of the generated files. You can choose any location on your computer, such as My Documents, for example. To transfer the file to the Electronic LED Panels, you need to select the flash drive, or save the files in a favorite location and then copy it to the flash drive manually. After the files are generated and saved correctly the following message appears:



At the selected location, it will be created a new folder called Inova. Inside this folder there will be the files generated. For each project, it will be created a XXXXX.INV file identified by project number.



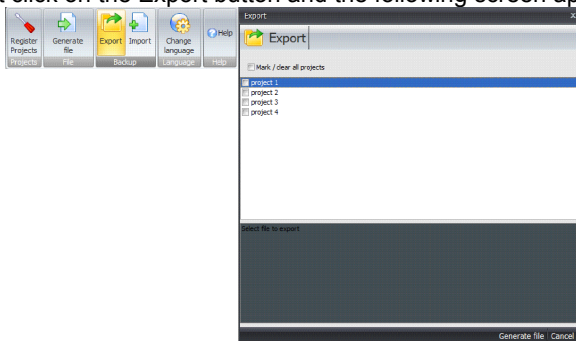
For the transfer of messages to the Electronic LED Panels to occur correctly, it is essential that the files be saved in the flash drive in the Inova folder. Otherwise the Electronic LED Panel will not recognize the presence of the files.

Now just follow the instructions in Chapter "Data Transfer via USB" to finish the transfer of messages to the Electronic LED Panels.

## 13.9 – Exporting files

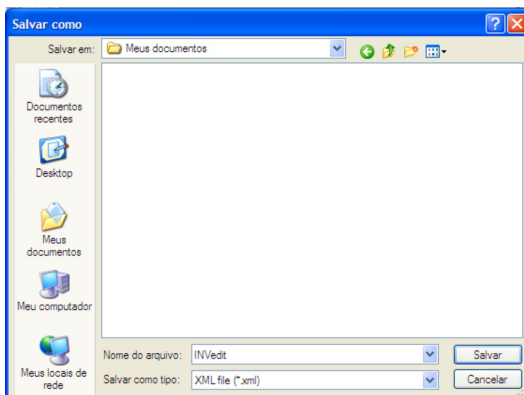
The Export tool is designed to assist the user in creating a safety backup. This tool also allows the user to easily transfer projects and itineraries from one computer to another.

To export files just click on the Export button and the following screen appears.





You must select itineraries to export and click on Generate file and the following screen appears

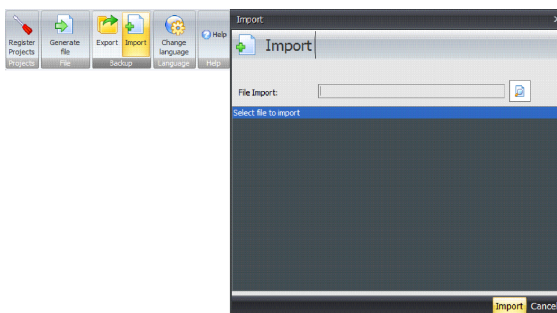


On this screen name the file and choose the desired location to store the backup. It will be generated a file xxxx.xml with all project data.



Inova Sistemas Eletrônicos recommends that you periodically back up the projects created in INVedit software, thus avoiding possible losses in the system upgrade.

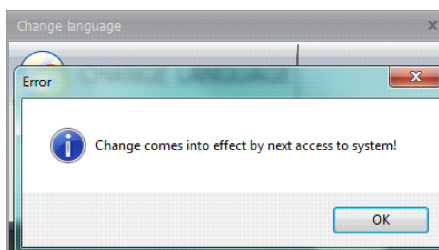
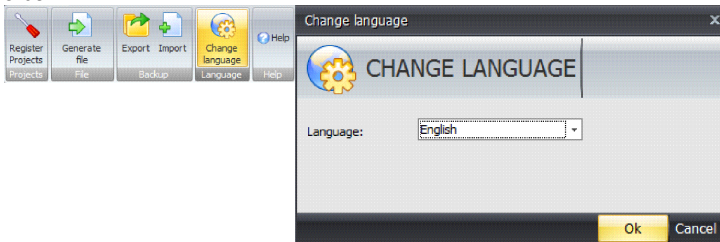
## 13.10 – Importing files



The importing files tool is used to update the INVEDIT software with itineraries created on another computer and also in the event of a possible software reinstalation. To import a file click on the import button on the main toolbar, the following screen will appear. Through search engine select the xxxx.xml file generated in the export and click on Import.

## 13.11 – Changing the Language in the INVEDIT Software

The INVEDIT software is available in Portuguese, Spanish and English. Other languages may be included upon request. To change the language of the software you must click on the Change Language button on the main toolbar.



When selecting the new language, the screen below will be displayed, stating that changing the language will only be effectively accomplished by opening the software again.

You need to restart the software to see the result.

## 13.12 – Help

When clicking the Help button on the main toolbar, the screen below will open, with information on how to get help from Inova technical support. If you click the Help button, the product instruction manual will appear, or click the Cancel button if the window is closed.





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